

Soybean Digest

1951 Crop Goes into Bins. See Page 12.



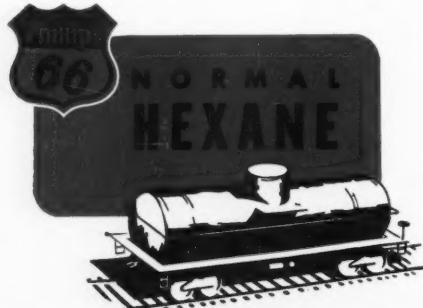
Official Publication
AMERICAN SOYBEAN ASSOCIATION

VOLUME 12 • NUMBER 11

NOVEMBER 1951



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THE Soybean Digest

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HUDSON, IOWA

Business, publication and circulation offices, Hudson, Iowa. Editor, Geo. M. Strayer. Managing Editor, Kent Pelett. Business Manager, Geo. McCulley. Director of Circulation, Gene Taylor.

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IN THIS ISSUE

	Page
Editor's Desk	4
Activities of Your Association	6
Growers	8
Soybean Queens of 1951	11
Farm Storage Benefits Soybean Marketing	12
DONALD B. AGNEW AND CLIFFORD H. KEIRSTEAD	
Are Soybean Prices at Peak?	16
Fat Content of Dairy Products	18
C. F. MONROE	
Trouble from Moist Beans	24
"Triangle Thins"	28
November Crop Report	30
Seek Cause of Disease Outbreak	33
Publications	35
Books	37
Letters	38
Grits & Flakes	40
Washington Digest	44
WAYNE DARROW	
Market Street	45
In the Markets	47

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NOVEMBER, 1951



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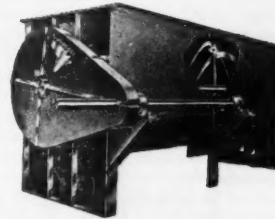
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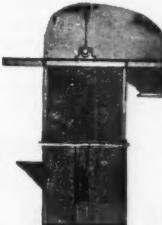
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EDITOR'S DESK

Why Meal Is Not Cheap

As the harvest of corn and soybeans progresses in the Midwest area, the cotton and corn and soybean harvests progress in the Southern area, and the harvest of wheat and flax in the Northern areas is stopped by winter weather, it becomes more and more apparent that feed supplies will not be too plentiful. Increasingly heavy livestock populations and rapidly increasing human population both demand larger and larger food supplies. The 2-billion-bushel corn crops which created surpluses 20 years ago have been replaced by 3-billion-bushel crops, and we can not keep up with demands.

A nation with more money demands more and higher priced food products. The family which on the meager income of 20 years ago bought sow-belly and beans now demands pork chops and steak, along with milk, ice cream and poultry products. So long as defense production bolsters payrolls and holds up national income there will be only increased demands for those products.

Last spring and summer there were those who predicted oversupplies of protein meals from 1951 crops. They sold soybean oil meal at around \$55 per ton, for November delivery. Since the harvest season started soybean oil meal has been selling at the ceiling price, and some processors tell us they are now sold through December and even into January at ceilings. The deluge of meal failed to develop. The deluge of soybeans which was expected at harvest time failed to develop.

Feeders are using larger quantities of protein than ever before. In view of recent developments in the feeding of soybean oil meal, including vitamin B-12 and the antibiotics, soybean oil meal is much in demand. Short corn supplies, soft corn, short oat supplies—everything points toward continued heavy demand. We do not expect soybean oil meal at cheap prices in the foreseeable future. At today's prices it is cheap when compared with other feedstuffs. When a 100-pound bag of soybean oil meal will replace four or five or even six bushels of corn in livestock feeding it is going to be in heavy demand as long as livestock populations remain high and prices remain good.

At ceiling prices soybean oil meal is a bargain! That's why so many people want it!

Not as Many Beans as Thought

Many is the time your editor has been accused of being a perennial pessimist. Could be. Right now I am pessimistic about the bushelage of the 1951 soybean crop. I have a feeling that when the final figures are computed we will come up short.

Reports from the Delta states tell of poor stands, low-ered acreage and poor yields. Reports from some sections of Illinois indicate yields two to five bushels per acre less than a year ago. Iowa acreage is still largely in the field at this writing. Snow has fallen, with subnormal temperatures. Ohio reports greatly reduced yields in some areas due to the drought.

We could be wrong. We doubt if there will be 280 million bushels of 1951 crop soybeans, as some predicted. We always wonder if those who make such predictions may be wishing and hoping for a crop of that size, in order that they might buy their supplies cheap. We realize that new and better varieties, better cultural prac-

tices, better combine operation and better weed control all contribute to higher yields.

But the weather man did not cooperate over much of the soybean production area in 1951. He has the final say on yields. Better look a second time before you plan on any 300-million-bushel crop for '51.

A Year for Careful Watching

Reports reaching us from country points consistently tell the same story—farmers are storing an even higher percentage of the 1951 soybean crop than they did a year ago. Some are being stored on farms and others are being stored in country elevators or at terminals. They are being held by the growers, rather than by handlers.

Probable reason is the advance in price which has taken place in recent years after the harvest was completed. Growers remember the October prices of last year—and the January prices. They remember that the man who held his beans and sold at the high point made half as much by doing so as he made for the entire production cycle on the crop. Over a period of years there has been a rise in soybean prices between November and June which has more than paid for storage in every year except one.

This year the price rise came early. Country point prices are not too far below ceiling prices. There is talk of lowering the ceiling prices by as much as 5 cents per bushel, basic country points, in order to adjust the spread between Chicago and points of origin. Under no circumstances can the price advances on 1951 crop beans compare with those of a year previous—the spread just is not there.

The situation, then, demands careful study of market trends by the men holding soybeans. A few cents fluctuation may make a profit or a loss on the storage operation. Careful analysis of the market and harvest situation will pay dividends. Soft corn, snowbound wheat fields, unharvested flax fields, increased livestock numbers, export demands for beans, meal and oil, all will affect prices.

It is a year for careful watching. It may be a year when a good margin earned is better than a wider margin not cashed in.

Remember?

Remember when soybean oil meal sold at \$17 per ton, basis Decatur? And when soybean oil sold at 3 cents per pound? And when soybeans sold at 47 cents per bushel, to the grower?

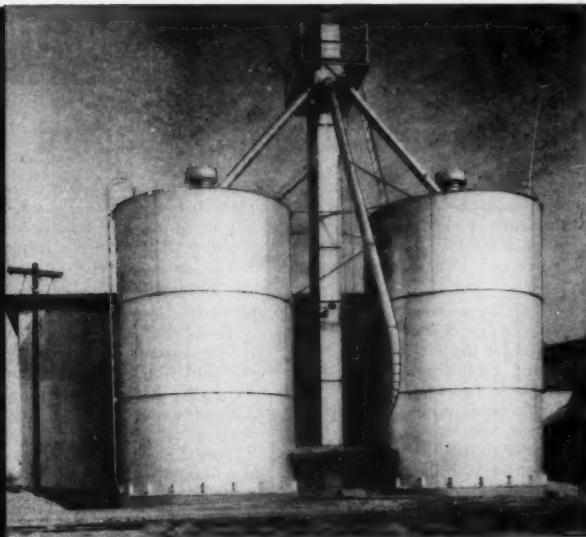
Remember when soybean oil meal had to be almost given away in order to get livestock feeders to use it? When it was compared with other vegetables meals, regarded as being decidedly inferior, and sold at a big discount under them?

And when solvent process soybean oil meal took a price discount, was regarded as being an inferior product? When solvent process meal was not toasted as is the case today, but came out looking almost the same color as the raw soybeans?

Times do change—and how! Life was simple when there were no such things as vitamins and antibiotics and urease activity to clutter up the picture. But how much more we do get for our money, now that we know about those things, understand them, use them to our advantage. They are merely indications of the direction in which we are going. A whole new vista of opportunities in the production of human food opens up before us as we learn how to use this new knowledge.

Then—we'll remember back and wonder how we got along so simply.

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ACTIVITIES OF YOUR ASSOCIATION

Changes in Margarine Standard

Use of citric acid and isopropyl citrate would be permitted in the manufacture of margarine under the proposed standard of identity issued by Food and Drug Administration Oct. 13.

Use of soy milk in the place of animal milk products would also be permitted for the first time, as Food and Drug recognized the desire of some people for a spread that contains no animal products. Such products have been largely taken off the market due to the fact that Food and Drug has not classified them as margarine, while Bureau of Internal Revenue has insisted they were margarine.

The American Soybean Associa-

tion had requested that citrates be permitted in the manufacture of margarine to control reversion in the soybean oil used in margarine.

The use of stearyl citrate would not be permitted under the proposed standard.

Thirty days are allowed in which to file exceptions to the proposed standard which becomes effective 90 days after final publication.

Food and Drug recognized that soybean oil is one of the vegetable oils used in large quantities in the manufacture of margarine. Refined soybean oil sometimes develops flavors similar to those of crude oil and these may cause an off flavor in margarine.

Experiments have shown that isopropyl citrate esters are effective in retarding flavor reversion, according to Food and Drug. The Administration found that extended experiments in feeding isopropyl citrate esters to dogs and rats showed little or no harmful effects and that these did not interfere with digestion.

Food and Drug found that use of stearyl citrate in margarine manufacture interferes with fat digestion in rats when rather comparatively large amounts are used, according to Food and Drug Administration. For this reason its use would be denied under the proposed standard.

It is reported that Best Foods, Inc., New York City margarine manufacturer, will file an exception to the standards, asking that the use of stearyl citrate be permitted in margarine. Its use would permit margarine manufacturers greater flexibility in their operations. Best Foods contends that stearyl citrate is not at all toxic and that it reduces digestibility of the margarine only when used in much larger amounts than requested under the standard.

Former manufacturers of spreads using vegetable products only, who had been put out of business by conflicting rulings of the Bureau of Internal Revenue and the Food and Drug Administration, have indicated to the Soybean Digest that they may place new all-vegetable products on the market if the proposed standard is allowed to stand.

The National Association of Margarine Manufacturers has indicated that it will file an exception to the permitted inclusion of a vegetable milk in margarine. The Association contends that a milk product is an essential ingredient in margarine.

Feeding Book on Press

The Association's 44-page booklet, *Livestock Feeding 1952*, is now at the printer's and sample copies should be available as soon as you read this.

The booklet has been prepared in answer to requests by soybean processors, feed dealers and others for such a publication. They wanted something to give customers to answer their questions concerning the feeding of soybean oil meal in simple, easy-to-read language.

The little book has been written by Kent Pellett, managing editor of the Soybean Digest. He summarized the best feeding practices for hogs, beef and dairy cattle and poultry,



You can get your free copy of *Livestock Feeding 1952* by writing to the American Soybean Association, Hudson, Iowa



Is this our answer to the Kolkhoz?

Make no mistake! This rich, peaceful American farm is on guard for America. It is part of a conflict that is now all too clear for our generation. It is the free world against the slave. Christianity against Communism.

None of us can avoid this matching of strength. Everything we have built is on trial. Each of us is matched against his counterpart in Russia—free man against slave. Business and industry developed under a profit, grow-ahead system against state-controlled industrial monopolies. You, a free American farmer tilling the soil you own or rent, against the Russian Kolkhoz—the collective farm where farmers are now driven by overseers to work the land the state has taken from them.

Our survival and final victory lies in the way the free American farmer is able to answer the Kolkhoz—to out-produce it by a tremendous edge so that those in service and those at home continue to be the best fed, best clothed people in the world. It lies in free American business and its

ability to roll forth the greatest array of machines and goods the world has ever seen. It lies in free Americans who live under a grow-ahead system and work for a goal, not a whip.

Our strength for the dangerous 'fifties is, strangely enough, in the very things some of the wild-eyed planners of the 'thirties and 'forties wanted to change to the Russian pattern of regimented farms and regimented business, regimented people.

As we face the dangerous years ahead, let's keep and build this strength we have. Let's keep and protect our grow-ahead system that has made us the envy of the world. It is the base of the only power that can answer the challenge of world-wide Communism.

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OFFICES IN MINNEAPOLIS AND 35 OTHER CITIES

This Advertisement also appears in *The Farmer*, *The Dakota Farmer* and 12 other publications.

and included the latest information on vitamin B-12 and antibiotics.

Information used in the booklet has been gleaned from federal and state experiment station bulletins and the writings of feed men. The booklet in its final form has been checked by a number of feeding experts.

There are sample rations using soybean oil meal, and new ones employing B-12 and antibiotics for hogs and poultry.

The booklet is nicely illustrated, and there is a distinctive cover in color by Artist John Andrews, who has drawn many of the illustrations for ASA soybean oil meal advertisements.

Livestock Feeding 1952 will be distributed through soybean processors and feed dealers to their livestock feeding customers.

Sample copies will be mailed on request. Write American Soybean Association, Hudson, Iowa.

GROWERS

For Miss. Delta Crop

Five soybean inspection stations have been opened in the Mississippi Delta area by the State Department of Agriculture, the Delta Council announces.

Due to the short bean crop this year, only a limited number of the stations will be set up at present. An intensive grain inspection and grading service to be initiated by the State Department of Agriculture was recommended earlier in the year by Delta Council's subcommittee on grain inspection and grading in making plans for more efficient marketing of the crop.

Grain brokers, elevators and



This implement aids in defoliating soybeans.

oil mill operators have been urged to contact samplers at the various stations to set convenient hours for sampling. A fee of \$3.50 will be charged for all IN and OUT carload shipments of grain and soybeans, and \$3.50 per hold on all barge shipments.

Inspection samplers and stations announced are Benjamin O. Clarke, assistant county agent, in the Greenwood area; Jack Oakman, assistant county agent, in the Clarksdale area; John Killebrew, assistant county agent, in the Indianola area; R. J. Landers, State Department of Agriculture at Stoneville, in the Greenville area; and Billy W. Harris, assistant county agent, in the Marks area.

Additional samplers and stations are proposed for Yazoo City, Belzoni, and Rolling Fork.

Aid in Defoliation

The tractor snouts or vine lifters shown above were built experimentally for use in defoliating soybeans by

the agricultural engineering department of the University of Illinois, according to G. E. Pickard, professor of power and farm machinery.

Farmers who wish to make up the snouts for their own use may secure the plans from the department at Urbana, Ill. The snouts are not a finished design but should be a helpful guide to farmers in making up their own equipment, says Pickard.

Straw Chopper Used

A straw chopper operating from the rear end of the combine has been in use during harvest this fall in the Champaign, Ill., area, reports J. E. Johnson, Champaign farm manager. Johnson reports very satisfactory results.

"This equipment has a place in efficient production," says Johnson. "Where used, straw was chopped to a fineness that could be cultivated without difficulty, using the field cultivator.

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"To the operator with a large acreage, this savings alone will soon repay the initial investment."

Two Crop System

Tom Pullum, veteran on-the-farm trainee, Malvern, Ala., has the farm labor problem solved by growing two crops on the same ground each year. One of them is soybeans.

Pullum's income from the two crops is about the same as it would be from the one-crop system practiced by his neighbors, but he does not have the problem of hiring labor to harvest.

Soybeans are grown in the summer and rye or oats during the winter. He can combine these crops by machinery, thus hired labor is not required, as contrasted with most Alabama crops.

He harvests oats about the first week in June and plants soybeans about the third week. This gives him two weeks to break and harrow the land in preparation for planting the soybeans.

Another advantage of the two crop system is a spring income as well as a fall income.

Alternate Rows

Yields are no better for corn and soybeans planted in alternate rows than when the two crops are planted in separate fields, experimental results at the Ohio Agricultural Experiment Station would indicate.

J. L. Haynes told about the results of the experiments at the annual Corn-Soybean Day at the Ohio Station in September. Two methods were tried—two rows of corn and two rows of beans, and four rows of corn alternated with four rows of beans.

Experiments in Illinois have shown a yield advantage for the alternate row system.

There has been little success in chemical weed control of soybeans, it was reported.

70 in Iowa Contest

About 70 farmers entered the Iowa Master Soybean Growers Contest this year, according to Joe E. Robinson, secretary of the Iowa Crop Improvement Association, sponsoring agency.

The Iowa farmer who turns in the highest yield of soybeans in the contest will be named Master Soybean Grower in the state for 1951. Other farmers will win local awards.

Contest sponsors at the local community level are responsible for the interest in the contest.

No Protein Poisoning

Farmers who are concerned about rumored "protein poisoning" of pigs are assured by S. W. Terrill, University of Illinois swine work chief, that there is no such thing. Even

43½ percent protein would not be harmful, Terrill points out, though it would be expensive.

Illinois workers fed two lots of pigs in a recent protein test. Each contained 13 fall-farrowed pigs averaging 129 pounds each at the start. For six weeks, one group got a ration containing 14½ percent protein and the other 43½ percent.

The first group averaged 225 pounds at the end of the test, a gain of 2½ pounds daily. Those on 43½ percent protein averaged only 11½ pounds per day, weighing 177 pounds at the end of the test.

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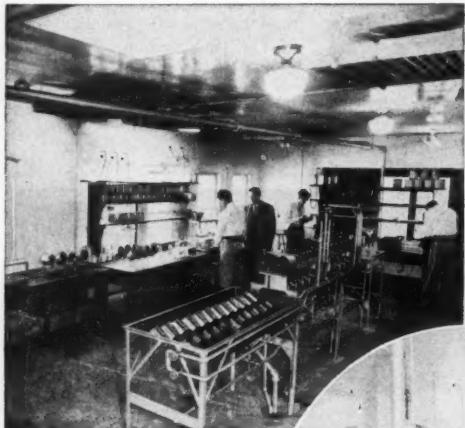
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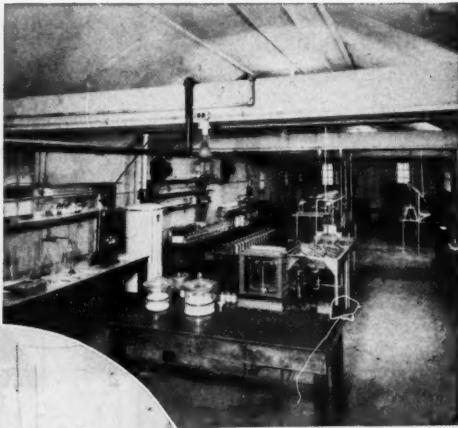


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H. L. Manwaring, deputy administrator, Production and Marketing Administration, presents Sondra Jean Beck, queen of the Portageville, Mo., National Soybean Festival, with a \$500 U. S. savings bond.



—Photo by Taylorville Breeze-Courier
Linda Ariana, three-year old tiny tot queen at Taylorville.



Martha Caspers, elected queen at Clara City, Minn.



—Photo by Taylorville Breeze-Courier
Pat Corsiato, Miss Soya of 1951, at Taylorville.



Junior queen Delilah Lee Mickey, Poplar Bluff, Mo., is crowned by 1950 queen Paula Lynn Richardson, at Portageville, Mo.

SOYBEAN QUEENS OF 1951



—Photo by Taylorville Breeze-Courier
Jitterbug contest winners at the Taylorville, Ill., festival were Marie Killman and Leonard Ryan.

3 Soybean Days Are Gala Affairs

Portageville, Mo., Jaycees and Jaycettes are still doing up their National Soybean Festival big. The five-day run, their fourth, closed Sept. 29, after 12 high school bands, 11 floats, a National Guard unit, air force personnel and 15,000 people took part.

Sondra Jean Beck, 17-year-old high school senior of Sikeston, Mo., was chosen queen over 27 other entries.

The junior crown was won by Delilah Lee Mickey, four-year-old daughter of Dr. and Mrs. Warren E. Mickey, Poplar Bluff, Mo.

Joe DeLisle was general chairman and treasurer of the festival and was assisted by Jack Barnett and James C. Lafont, assistant chairmen; J. Byron

DeLisle, Jaycee president; and Mrs. Gene Rucker, Jaycette president.

Taylorville, Ill.

Taylorville, Ill., held its fifth annual Soybean Festival Sept. 13-14, with the traditional parade, band concerts and street dances, and a style show.

Pat Corsiato, Belpit, Ill., was named Miss Soya of 1951. She is the daughter of Mr. and Mrs. John Corsiato.

Queen of the tiny tots was Linda Ariana, three-year-old daughter of Mr. and Mrs. James Ariana, Kincaid. A special attraction was the world

famous St. Bernard dog, Hektor, of Edelweiss Kennels, Springfield, Ill.

Master of ceremonies was W. C. Hillyard of the Taylorville J. C. Penny store.

Clara City, Minn.

Clara City, Minn., observed its second annual Soybean Day Aug. 3, and a three-day carnival Aug. 2-4.

Main speaker was State Senator Fay George Child, who was presented by American Soybean Association President John W. Evans.

Events included a band concert, free movies and a parade, and soybean and grain exhibits.

Martha Caspers was elected soybean queen.

Genial Cliff Schram was master of ceremonies again this year.

Farm Storage Benefits Soybean Marketing



YOU CAN INCREASE YOUR NET PROFIT THROUGH CAREFUL TIMING OF SOYBEAN SALES

By DONALD B. AGNEW and CLIFFORD H. KEIRSTEAD

Agricultural Economists, Production and Marketing Administration, U. S. Department of Agriculture

MANY FARMERS have increased their returns from soybeans by reducing the cost of production and obtaining better yields, but relatively few have done so by obtaining better prices. Soybean growers can avoid selling at depressed harvest-time prices simply by storing the soybeans for later sale. They can provide storage on their farms or they can store at commercial warehouses, if space is available. And while increasing their soybean profits through storage, they will be helping to reduce serious marketing problems.

Soybean marketing includes the important role of farmers in planning and timing their soybean sales. Since the beans, or the oil and oil meal, must be handled and stored many times between the harvest field and the feed bag or grocery store shelf, the farmer who stores his soybeans is performing an important market service. And he is paid for the storage service, as are the other marketing agents who furnish the more familiar services of transportation, crushing, product manufacturing, and handling the numerous ownership changes. To obtain the most profitable payment, the farmer must coordinate his soybean marketing practices and his use of storage facilities for low costs, good quality, and sale at a favorable price.

Prices of soybeans and soybean products swing through a wide seasonal cycle nearly every year, with a major part of the soybeans marketed by farmers near the low point of the season. About two-thirds of the crop is marketed in October and November. This heavy volume of harvest-time selling contributes to a high seasonal demand for freight cars and results in congestion at country elevators, terminal markets, and processing plants every autumn.

These problems are worsened by three characteristics of commercial soybean production. The major part of United States soybean production is concentrated in limited areas in the Midwest, Mid-South and Mid-Atlantic states. The harvest period is short, for harvesting cannot begin be-

fore the leaves die and must be accomplished in a few weeks to avoid costly shattering losses. And the accumulation of beans is rapid, for (particularly in the Midwest) harvest weather is usually favorable and there are a large number of combines. In many Cornbelt soybean counties, a million bushels of beans are trucked from the combines during the first three weeks in October.

In marketing, soybeans move typically from farms to country elevators and on to processing plants; but as storage space at these locations is filled, large quantities are shipped to terminal elevators. For many months, commercial marketing facilities are used for storing a large part of the soybean crop. The rates of soybean crushing and soybean product consumption are nearly uniform from month to month.

Farmers can help to improve soybean marketing by reducing the seasonal peak in their sales and spacing their marketings more evenly throughout the year. This would help reduce seasonal congestion of handling and transportation facilities, wasteful back-hauling from terminal elevators to processing plants, and the wide seasonal spread in prices of soybeans and their products. Increased soybean storage by farmers would also help reduce inventory risk cost for crushers and for refiners and manufacturers of oilseed products.

Farmers' direct interest in soybean marketing lies in the net profits from different marketing schedules. Because changes in the pattern of their sales depend on storage, analysis of the costs and returns of storage is important. Both costs and returns are influenced by the condition of the soybeans and their storage requirements; for deterioration in storage can involve extra cost or a lower selling price. In most years, soybean prices rise more than enough to cover storage cost.

Soybean storage paid well in three of the four postwar years, 1946-47 to 1949-50. Although storage cost ordinarily remains fairly stable from year to year, both the level and the seasonal movement of soybean prices varied greatly from one year to another. During these years, the seasonal price pattern, the month of peak price, and the spread between low and high prices all varied considerably. Each crop year since 1928, soybean storage has been profitable except in those four years when the general price level declined (1930, 1931, 1937, 1948 crop years). In 1948-49, despite falling general prices, soy-

bean prices increased to cover storage costs for one and two months, then fell and finally reached profitable levels again 10 months after harvest.

Although a uniform rate of soybean sales by farmers could be expected to reduce seasonal price fluctuation, it is unlikely that the variation would be eliminated entirely. Soybean prices reflect the value of their oil and meal equivalents less processing costs, and are influenced by fluctuations in prices of competing products. Soybeans and some of their important competing products probably will continue to be marketed seasonally, and soybean prices can be expected to rise enough seasonally to cover storage costs in most years.

Farm or Elevator Storage

Careful comparison must be made in determining the cost advantage of on-farm or off-farm soybean storage. Cost differences are small between storing on farms and at elevators; each location has its advantages. For storage periods of five months or less, total storage costs are less at elevators than on farms; but for six months¹ to a full year's storage, less on farms than at elevators. Once farm storage has been built, however, annual storage outlays are less on farms.

In deciding whether to build farm storage, a comparison is needed based on a forecast of total farm storage cost and country elevator storage charges

for the following 30- to 40-year period. In deciding whether to store in existing farm storage or at the elevator, the important cost comparison is out-of-pocket cost; the elevator storage charges must be compared with three farm storage costs: in-and-out handling, shrinkage, insurance or risk. In some states, property taxes at both locations must be considered. For some farmers who have to borrow in order to finance storage, the credit cost would also be involved. Credit on elevator-stored soybeans may be easier to obtain or may be less costly.

In deciding whether to continue holding stored beans or to sell, costs already incurred can be disregarded. For elevator-stored beans, the anticipated price increases must be compared with the monthly storage charge and, in some states, with the amount of tax that would be levied against the soybeans on the tax assessment date. The minimum cost of continuing to hold farm-stored soybeans would be property tax cost on the tax assessment date, for clean soybeans (with 12 percent moisture content) stored in tight bins.

Off-farm storage requires that elevator storage space be available for farmer's use, and that unloading capacity at elevators be sufficient to handle the beans as they are brought in by farmers. Some farmers may find that waiting to unload at the elevator during the harvest rush ties up their harvesting. When all their trucks are

Truckloads of soybeans converge on Swift & Co. soybean mill at Fostoria, Ohio, during height of harvest. Heavy marketing at this time causes congestion at country elevators, terminal markets and processing plants.



full, they may have to stop the combine and wait for the trucks to return; this forces them to gamble on the continuation of good harvesting weather. Many farmers may feel that the slight extra cost of farm storage is the price of being sure that they will be able to store at all, rather than selling at seasonally depressed prices.

As many country elevators limit storage for farmers to six or seven months, some farmers may prefer farm storage because of greater flexibility in the time of sale. On the other hand, such non-cost advantages as convenience or personal preference may be important factors influencing a farmer's decision to store on the farm or at the elevator.

Whenever farm storage space is available, cost considerations favor its use rather than elevator storage. And once soybeans are in farm storage (even temporary storage in shallow piles in the crib driveways) it is cheaper to keep them there until time of sale.

Any type of construction is suitable for farm grain-storage (including soybean storage) which meets the following basic requirements:

- (a) Prevents leakage of the soybeans.
- (b) Excludes rain, snow, and ground moisture.
- (c) Prevents loss from thieves, rodents, birds, insects.
- (d) Permits effective fumigation to control insects.
- (e) Provides reasonable safety from fire and wind damage.

Where stored soybeans or other grains are to be sealed as security for price-support loans, the construction must require forcible breaking to be entered after sealing, and must allow sufficient headroom for inspection and sampling.

Any bin of permanent construction will provide satisfactory and

economical storage, if it meets these requirements, can be built at reasonable first cost and maintained at low upkeep, and is convenient for filling and emptying.

Farm grain-storage buildings of typical design and construction are generally suitable for storing soybeans. Soybeans weigh about the same per unit of volume as wheat or shelled corn. On most soybean farms, the soybean is one of several grain crops which compete to a great extent for the same storage space. Farmers who plan to build additional storage for soybeans or other grain thus have a wide range of choice of materials, design, use, and capacity.

Costs and Returns

Storage cost includes not only the charges for the use of storage space but also the operating costs, whether or not they require annual cash expenditure. Operating costs include shrinkage, handling, loss in quality, and, in some instances, conditioning, as well as interest, insurance, and taxes on the soybeans.

Soybean storage is profitable for the farmers who keep an eye on prices. Consider the farmers who stored 1,500 bushels of beans in each crop year 1946-47 through 1949-50. Those who sold at the average December-January price earned \$1,800 more than they would have by harvest selling. Those who sold at the average March-April-May-June price earned \$2,300 extra, despite a \$600 loss in 1948-49. (The "spring sellers" who had "hedged" with a price-support loan in the fall of 1948 cleared about \$2,900.) Those who watched prices closely and anticipated the market well enough to sell within 25 cents a bushel of the seasonal peak price earned \$3,000 or more. These figures are net profit for holding soybeans in each of the four years, after paying storage costs. The seasonal peak pri-

es occurred in Mar. 1947, Jan. 1948, Aug. 1949, and July 1950. Farmers who sold 1,500 bushels from storage at mid-month peak prices earned \$4,500 extra. The value of the soybeans at harvest totaled about \$15,000 for the four years.

Cost for storing soybeans on farms may be expected to vary from one farm to another, because of the wide range in amount of individual cost items. Building costs vary because of differences in the initial cost of the storage building, its expected useful life, its insurance or risk, and taxes on its value. Operating expenses vary widely, particularly the costs related to the value of the soybeans. Interest (or credit) and insurance costs are variable within a certain range according to individual farmer choice. Property taxes on the soybeans, however, vary from one state to another and between taxing units within a particular state, with differences in tax law and assessment practice. Taxes vary also with the time of assessment, because market value on the various assessment dates may be seasonally low or at the spring-summer peak levels.

Three months' storage totals about 7.8, 9.3, and 10.3 cents per bushel for typical round metal bins, frame granaries, and corncrib-granaries, respectively. Six months' storage totals about 9.6, 11.2, and 12.2 cents, respectively. For comparison, typical costs to farmers for soybean storage at country elevators amount to 6.5 cents for three months, 12.6 cents for six months.

To be a good investment, farm storage facilities must hold the crop at a reasonable cost and maintain its quality. The charge for the use of storage space represents the gradual return of the investment already made in the building and the annual charges for interest and upkeep of the building. Similar costs for the in-

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vestment in handling and conditioning equipment are charged to operating costs, along with expenditures for power or fuel and for labor. In keeping their accounts, some farmers may double the charge for storage space, per bushel of grain stored, when only half of the storage space is being used, because annual building cost is independent of the amount of grain stored. Others charge the building cost to the crop rather than to storage, since space cost must be borne by the farm business whether the storage building is used or not.

Charges or expenditures for credit, insurance, taxes, shrinkage, and handling are incurred and paid on a single-crop basis. Credit, insurance and tax costs vary generally with the price of soybeans. Handling cost, which is independent of soybean price, can be charged in full at the beginning of the storage period, since, after the soybeans have been placed in storage, half the handling cost has been incurred and the other half is inevitable. Loss of quality affects principally the sale value of the soybeans rather than the storage expenditure.

Construction and upkeep costs on farm storage facilities vary with design and with the kind and quality of

materials used. For combination crib-granaries construction cost ranges generally from about 60 cents to 90 cents or more per bushel of capacity, excluding elevator; for multiple-bin frame granaries, it ranges from about 55 cents to 75 cents per bushel; and for circular metal bins, about 35 cents to 45 cents. Cost generally decreases as capacity increases.

Annual charges for depreciation and interest on book value vary directly with construction cost and inversely with the useful life of the building. Annual depreciation and interest on a movable bin which has a life expectancy of 10 years and which costs 45 cents per bushel of capacity will amount to 5.4 cents per bushel. This compares with 2.0 cents for a building costing the same but having a life expectancy of 40 years, and 4.0 cents for a crib-granary which costs twice as much to build, per bushel of capacity, and which has a 40-year life expectancy.

Annual Storage Costs

In-and-out handling cost (for both labor and machinery) ranges generally from about 1 cent to 2 cents per bushel, the beans being handled at least twice. Handling equipment involves the same elements of annual

investment cost as the storage building—depreciation, interest, repairs, insurance and taxes. As the amount of annual depreciation varies with the hours of use, however, these "investment" costs for handling equipment should be charged to handling cost.

Flight-and-chain type portable elevators have a 1000-hour useful life expectancy for depreciation purposes, and will elevate 300 to 500 bushels or more of grain per hour under typical farm conditions. Excluding labor, handling cost ranges from 0.3 cent to 0.5 cent per bushel handled, including depreciation, operation and maintenance, and repair.

Shrinkage in storing soybeans is the reduction in quantity resulting from loss of weight as the beans dry out and from loss in handling, either from beans spilled or from particles chipped or rubbed off. Soybeans stored at safe moisture levels (13 percent for storage till warm weather, 12 percent for longer periods—in the Midwest; slightly lower in warmer climates) usually incur no weight loss from drying out. Sometimes they gain weight. The weight gain represents too small an increase in moisture content to affect market grade. The handling loss in storage varies directly with the

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care taken in adjustment and operation of the handling equipment.

One-quarter of one percent appears a reasonable shrinkage allowance for each handling in storing soybeans on farms, or 0.5 percent for in-and-out handling. For emergency storage in temporary facilities, such as crib driveways, handling losses might be greater; but this loss would ordinarily be offset by the saving in cost of storage space.

Credit cost averages 3 to 6 percent on an annual basis. Storing can be financed by borrowing on the value of the soybeans or by obtaining advances or extensions on production loans. Commercial banks, production-credit associations, other credit houses, the Commodity Credit Corporation, and individuals are sources of such loans.

The cost of a loan varies mainly with the source and amount of the loan, the interest rate, and the length of the storage period. "Imputed" interest cost should be charged to stored soybeans when the farmer does not borrow to finance storage. Imputed interest is a proper charge because the farmer usually could obtain earnings from investing the money elsewhere, or net savings from paying off outstanding loans or merchant credit.

Insurance cost averages 0.6 percent on an annual basis, varying with its source and amount, the hazards and coverage that are obtained, and the length of the storage period. Some farmers may feel financially able to carry the entire risk unaided by insurance. Others prefer to pool risks through insurance, averaging all losses for many farmers over a period of years.

Tax cost depends on the assessed value of the soybeans and the tax rate; assessed value will necessarily vary with market price and assessment practice. Because soybean prices differ between states and fluctuate during the marketing year, the market price on assessment date shows considerable variation.

In 11 of the 21 principal soybean-producing states, property taxes are not levied against farm-stored soybeans. Among the other 10 states property taxes become a storage cost on Jan. 1 in Missouri and Ohio, Mar. 1 in Indiana, Mar. 10 in Nebraska, Apr. 1 in Illinois and Michigan, May 1 in Minnesota and South Dakota, July 1 in Kentucky and July 31 in Arkansas.

Increasing their net profit through careful timing of soybean sales is important to all soybean farmers. Only a few can profit from early harvesting; its general adoption would merely cause an earlier seasonal price de-

Processing Plant at Alhambra, Ill.



—Photo by Soybean Digest

Plant of the Alhambra (Ill.) Grain & Feed Co. Firm operates two screw presses and has storage capacity of 210,000 bushels of soybeans.

cline. But many farmers can store soybeans at harvest for sale during the usual price recovery in the winter and spring.

Whether to store soybeans or sell at harvest should be decided each year on expected costs and returns for the coming season. Farmers with adequate storage facilities should consider convenience and annual storage costs in deciding where to store. Whether to provide new storage facilities requires a more fundamental study of usual farm storage costs. Adequate storage capacity lends flexibility to farming, but storage facilities, once built, last for many years and must be paid for by the profits from the soybeans and grain stored.

The idea that it would pay all soybean producers to store all of their soybean crop is no more trustworthy

than the idea that the whole crop should be sold at harvest time. Farm storage of soybeans will pay under favorable circumstances and with wise harvesting and storage practices. Soybean farmers who are willing to expend effort in careful management of their storage practices can expect to share the usual extra profits from the more orderly marketing.

This article is based largely on detailed analysis of the economic aspects of soybean storage, published by the fats and oils branch, Production and Marketing Administration, in "Improved Soybean Marketing through Farm Storage," Agricultural Information Bulletin No. 57, June 1951, and "Cash Costs of Farm Storage in Marketing Soybeans" (Processed), Sept. 1950.

Are Soybean Prices at Peak Now?

A University of Illinois authority says he believes soybean prices may already have risen to just about their peak for this early in the season.

In fact, agricultural economist G. L. Jordan would not be at all surprised if the season's peak occurred in December or January, which is much earlier than usual.

The recent price rise to about \$2.65 during harvest may largely replace the usual increase that normally comes later in the marketing season. This would be true on the basis of prospective average bean prices, barring any further serious inflation and an exceptional export demand.

Jordan thinks price movements are likely to be erratic this season, but less so than in 1950-51. He em-

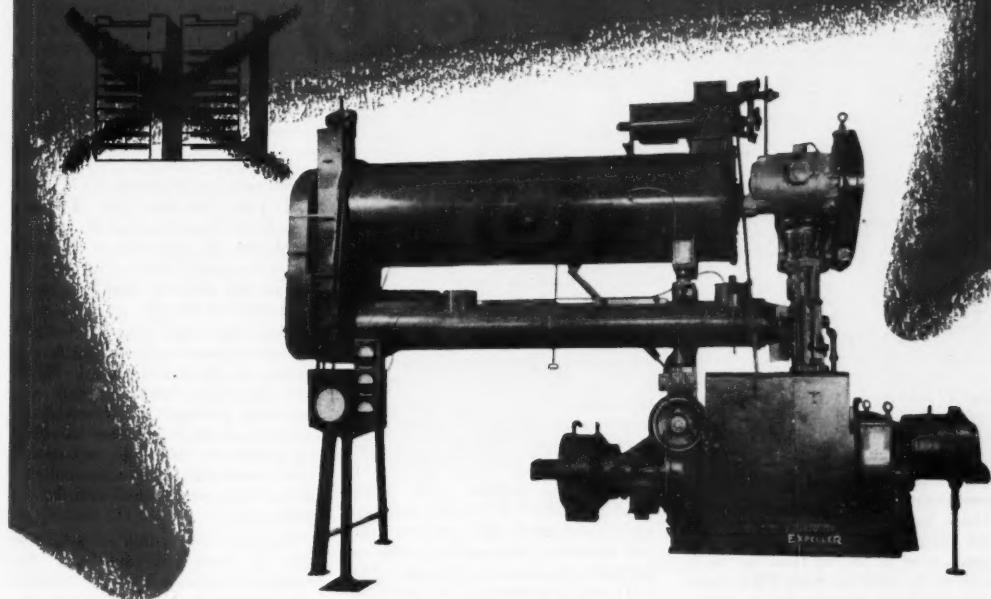
phasizes the fact that there is nothing in sight to suggest that soybean prices will approach last year's peak. Holding beans for as much as \$3.00 would therefore seem to be pretty risky.

Iowa View

Francis Kutish, extension economist at Iowa State College, Ames, believes there should be some money made from farm storing soybeans this year. But he doesn't foresee as large a margin as there was last year.

At harvest time in 1950 the going price for beans was about \$2.10 per bushel, and by spring, stored beans sold for as much as \$3 to \$3.15 per bushel.

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THE FAT CONTENT OF *Dairy Rations*

By C. F. MONROE

Department of Dairy Science, Ohio Agricultural Experiment Station. From talk before Tri-State Conference of processors and agronomists at Urbana, Ill.

THE QUESTION of how much fat the dairy grain mixture should contain is one of present day economic importance. The increased demand for oils for human consumption and for industrial purposes has resulted in favorable prices for the oils obtained from the various seeds which furnish the by-product oil meals commonly used in dairy feeds. These higher prices have stimulated the use of newer methods which remove more of the oil from the seeds than do the older methods. Thus, there is a definite trend toward a lower fat content in dairy grain mixtures, since the by-product feeds are used extensively as protein supplements and ordinarily contribute appreciable quantities of fat to the mixtures.

Source of Milk Fat

At one time there was a popular belief that the fat in an animal's body or in the milk secreted came directly from the fat in the feeds. The work of Jordan and associates (19) (20) showed that nutrients other than fat could be used as the source of milk fat. Cows fed on rations from which nearly all the fat had been removed by extraction continued to produce fat in their milk. The authors concluded that "the composition of the milk bore no definite relation to the amount and kind of food."

The findings of these investigators has since been verified in experimental work and to a certain degree in practical feeding. The interconversion of feed nutrients within the animal body is now generally recognized (43). The action of microorganisms within the rumen of the dairy cow may play an important role in the formation of fatty acids (10) (48) (53) and fat, as suggested in the work of Hale et al (15).

Feeding Fats and Oils

In general, it may be said that the feeding of fats and oils, as such, to milking cows has failed to increase milk and butterfat production. Wood (52) after trying such additions to cows' rations as palm oil, corn oil, cottonseed oil, stearine, and coconut oil concluded that although there was a temporary increase in butterfat percentage, there was a return to normal with continued feeding.

This was also found to be true by Lindsey (21) who tried linseed, cottonseed, and soybean oils. Wing (51) fed tallow in varying amounts up to two pounds daily per cow without obtaining increases in milk or butterfat production. Sheehy (46) (47) has also reported no increases in butterfat percentage or production by the use of several different oils. Nevens and associates (37) found increases in butterfat tests caused by the addition of some oils to the diet of the cows, but these increases disappeared after the first two or three days.

Increases in butterfat production were noted by Allen (1) soon after the addition of fat to the ration, but as the author himself concludes, these investigations gave no satisfactory evidence regarding the effect of continued feeding. Sutton and coworkers (49) found that the ingestion of one pound of corn oil per day resulted in no significant changes in milk or butterfat production.

Gibson and Huffman (13) reported an increase in production from adding soybean oil to a low-fat ration. In a later report, Huffman and Duncan (17) state that the increases from adding soybean oil were not consistently obtained.

Even the feeding of butterfat in the form of butter or cream has failed to result in significant increases in milk or butterfat production or butterfat percentages (27).

In certain cases oils, such as cod-liver oil, have been shown to have a definite depressing effect on butterfat

percentage and production (7) (12) (28) (36) (38) and (50). This has also been found true in the case of menhaden oil, according to the work of Brown and Sutton (4) who attribute the effect to highly unsaturated acids in the oil.

Shark liver oil, although fed primarily as a source of vitamin A, was shown by Deuel and Nuthall (8) to give favorable results on milk and butterfat production. However, in other work there has been no effect on production (2) (11) and in still other cases (18) (44) a lowered production was encountered with the use of this oil.

The work on feeding extra fat and oils, as such, indicates that this method of increasing the fat intake is relatively ineffective as a means for increasing milk and butterfat production. In certain cases, responses in increased tests were obtained but these lasted for only a few days.

Fat Levels in Grain Mixtures

Workers at Cornell University have been interested in determining whether carbohydrates and fats were equally satisfactory as the food source of milk fat. They have been particularly interested in the physiological economy of these two forms of nutrients and their effect on the yields of milk and butterfat. In an extensive series of carefully conducted experiments, these workers have sought to determine the fat requirements for milk production by comparing grain mixtures of different fat contents.

In the first of a series of trials, Maynard and McCay (30) showed that grain mixtures from which most of the fat had been removed by extraction with benzine were not as efficient for milk and butterfat production as the same mixtures not extracted. The extracted mixtures contained less than 1 percent fat and the unextracted, 6 or 7 percent fat. A 3 percent fat mixture was obtained by blending the other two mixtures and it proved to be intermediate between these two in its efficiency. In these

grain mixtures the fat removed was replaced by an isodynamic amount of starch. The feeding periods were of 30 or 35 days duration.

In another series of trials, the Cornell workers (33) compared grain mixtures containing 4 and 7 percent fat. In this work a high-fat supplement composed of ground soybeans, flaxseed, and corn germs was added to a basal mixture for obtaining the 7 percent mixture. To obtain the 4 percent mixture, the supplement was extracted and added to the same basal mixture with the addition of an isodynamic amount of starch. Two trials of 13 and 12 weeks of the continuous feeding type were conducted. Although the productions of milk and butterfat were a little higher on the higher fat level, the differences were too small to be considered significant.

On the basis of this work and the preceding trial the authors tentatively recommended that grain mixtures for milking cows should contain 4 percent of fat. They also state "that a higher level is not justified if it increases the cost of the ration per unit of total digestible nutrients."

In a third series, the investigators at Cornell (31) compared grain mixtures containing 3 and 7 percent fat. In the low-fat mixture the fat was removed from the protein supplements by pressure methods rather than by extraction methods as in the previous trials. This method of removing the fat was used as a check on the previous work as there was the possibility that the extraction methods may have removed substances other than fat which could have influenced the results. There was also the possibility that the extraction methods could have left undesirable residues in the feeds.

In this third series, two trials were conducted one of which was of the continuous feeding type of 14 weeks duration, and the other was a reversal trial in which the feeding periods were for five weeks. Both trials resulted in slightly more production on the 7 percent fat mixture than on the 3 percent fat mixture. On the basis of 4 percent fat corrected milk, the differences were 4.1 percent and 2.4 percent in the first and second trials, respectively.

In still another series of trials, Maynard and associates (29) have compared grain mixtures which differed in their fat content according to whether ground soybeans or extracted soybean oil meal plus starch were used. In the first of these trials, the actual fat percentages of the mixed feeds were 5.27 percent and 3.35 percent, and in the second, 6.33 percent



You don't have to feed a high-fat grain mixture to dairy cows to get efficient milk production. Many other factors are more important than the fat content of the ration.

and 3.09 percent. Both trials were of the reversal type with feeding periods of six and five weeks, respectively. Combining the results of the two trials shows an advantage for the higher fat ration of 2.55 percent in terms of 4 percent fat corrected milk. This difference was shown to be significant. The authors conclude that ground soybeans are a satisfactory source and practical means for providing fat.

The four series of trials just reviewed have been summarized and some of the pertinent data presented in tabular form by Maynard and co-workers (32). The authors point out the concordance of results but recognize the need for further study of some of the factors that could have influenced their results.

Other Feeding Trials

At the Ohio Station (34) this question of the amount of fat in the grain mixture has been studied from its practical aspects. Feeding trials were planned to determine the production performance resulting from the use of grain mixtures representing the levels of fat most frequently encountered in practical grain mixtures using only those feeds commonly found in regions like Ohio. Thus, in the first year's work, the high-fat mixture contained 4.7 percent fat, a medium mix-

ture 3.5 percent, and a low-fat mixture 2.7 percent fat. In the second year's work, the levels were 4.9 percent and 3.2 percent fat.

These differences in fat percentages were obtained by supplementing basal mixtures with either expeller soybean oil meal with and without ground soybeans, or extracted soybean oil meal. Starch was not added to compensate for differences in energy content. The grain mixtures were fed on an equal basis along with moderate amounts of corn silage and liberal amounts of hay, fed "ad lib." There were five feeding trials conducted involving a total of 128 cows. All the trials were of the continuous feeding design with preliminary periods of 30 and 50 days and experimental periods of 100 or 110 days each.

The results of these trials failed to show any significant differences in production of milk or butterfat as a result of the different levels of fat intake. The ratios of productions between the experimental periods and the preliminary periods for the five trials were 87.07 for the high-fat ration and 87.09 for the low-fat ration. Of the 54 pairs of cows on the extreme levels of fat feeding, 28 of these showed an advantage for the higher fat intake and 24 for the lower fat intake, with two of the pairs showing

no difference. Likewise, no difference in other respects such as butterfat percentages, liveweight gains, or in general health of the cows was demonstrated.

Schubert and Wells (45) of the Michigan Station failed to obtain an increase in production when they changed one of two groups of cows from a grain mixture containing 1.3 percent fat to one containing 4.75 percent fat. The other group of cows, whose feeding was kept constant, performed the same as the group which had received the increased amounts of fat.

Workers at the Oregon Station (6) compared ground soybeans and soybean oil meal as the grain supplements for feeding with alfalfa hay. No significant differences in production were obtained, although the fat content in the soybean ration contained 5.2 percent fat as compared to 2.7 percent in the soybean oil meal ration.

Likewise, at the Ohio Station (35) a simple grain mixture containing ground soybeans is proving no more efficient than a comparable mixture containing soybean oil meal. Both are being fed with liberal amounts of roughage on a lactation basis.

Other Factors

Recognizing the fact that possibly factors other than fat per se may have influenced the results obtained in their work, the Cornell investigators (24) have studied the effects of:

1—Adding starch to the grain mixtures, and

2—The effects of the rate of hay feeding.

On the basis of the results obtained, they state, "The presence of corn starch in the low-fat grain mixture, as previously used at this Station, may temporarily depress milk yield and, therefore, magnify the advantage for the high-fat mixture." With fre-

quent adjustment in the rate of grain feeding, the cows thus lowered in milk production would be fed reduced amounts of grain. That starch may have a depressing effect on roughage digestion is confirmed by the work of Burroughs and associates (5).

The rate of hay feeding was also shown to have an influence on the fat requirement. From the findings in this work, the Cornell workers (24) state, "The beneficial effects of high fat feeding may be less at high than at low hay intakes." Their comparisons were made between hay feeding rates of 1.0 pound per hundred pounds of liveweight and 1.3 pounds per hundred pounds liveweight. In normal feeding with good quality roughage the intake of hay will exceed this higher level. The authors express the opinion that the difference in energy between moderately low- and high-fat rations may be compensated for by the cow eating an extra pound of hay. In this same publication the writers state, "Excellent milk production (8,000-12,000 pounds yearly) even if not maximum can be obtained with grain mixtures containing as little as 2 or 3 percent of fat."

In studying other factors that may be involved in the efficiency of the low-fat intakes as compared to the higher intakes, the digestibility of the different rations was compared by Lucas et al (25). It was found that the apparent digestibility of the rations was not influenced by the difference in the fat contents.

Likewise, in another series of studies, Lucas et al (26) showed that differences in response between two fat levels could not be explained by the differences in the intake of the fat soluble vitamins A, D, and E. The difference in production obtained between feeding a grain mixture containing 5.9 percent fat and one containing 2.2 percent fat was the same

with or without the addition of these fat soluble vitamins. This difference in production amounted to 2.5 percent favoring the higher fat mixture.

Vitamin E in the form of natural tocopherols was claimed by Harris et al (16) to have increased the fat content of milk. However, neither the work of Gullickson and associates (14) nor that of Whiting and associates (50) indicated any significant increase in milk yield or butterfat percentage through the addition of tocopherol.

Differences Small

The extensive series of trials conducted by the Cornell investigators have been summarized by Loosli (22). In this summary he shows that the average increase in 4 percent milk has amounted to 4.1 percent by using the higher levels of fat in the grain mixtures. The range in fat levels compared varied from a low of .7 percent to a high of 10.0 percent fat. In terms of 4 percent milk, the difference amounted to 1.4 pounds daily. Within the range of fat levels experienced in practical feeding (2.0 to 5.9 percent) the difference amounted to .8 of a pound of 4 percent milk daily. The author states, "Thus, the question appears to be purely an economic one as to whether the fat is worth more than the extra feed." (A larger amount of the low-fat grain can compensate for the lack of fat contained therein.)

Rumen Activity as a Factor

That factors other than the amount of dietary fat in the grain mixture may be involved in the metabolism of fat is suggested by the work of Powell (39) (40) (41) and (42). In his work on the relation of roughage to the fat content of milk, he showed that the fat percentage could be varied as much as 60 percent by decreasing the total intake of roughage and

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increasing the amount of grain. He also found that changing the physical characteristics of the roughage by grinding or chopping also lowered the fat content of the milk. Powell (40) claims that there is a positive correlation between the activities of the rumen and the composition of the milk.

These findings of Powell have been confirmed, for the most part, by Loosli et al (23). Their results failed to show the extreme declines in butterfat tests but showed a greater decline in milk production than those of Powell. Workers at the Iowa Station (9) were not able to confirm the findings regarding the effect of changing the physical characteristics of the roughage. They did feed some long hay and silage which may have influenced their results. Breirem (3) suggests that "a certain amount of roughage or cellulose is probably necessary for normal rumen fermentation and thereby for the synthesis of milk fat."

Summary

Cows can continue to secrete fat in their milk after the fat has nearly all been removed from their feed. The feeding of extra fat and oil as such has failed to increase milk and butterfat, except for a relatively few days.

In carefully controlled feeding trials, in which special experimental grain mixtures have been used mostly, investigators at the Cornell Station have shown an average increase in the production of 4 percent milk of 1.4 pounds daily. The levels of fat in grain mixtures compared ranged from as low as .7 percent for the low to as high as 10 percent. Within the range usually encountered in practical feeding (2 to 5.9 percent) the average difference was .8 of a pound of 4 percent milk daily. Since the cows used in this work were generally liberal producers, in the early or the mid-

dle stages of lactation, the above differences probably represent a near maximum to be expected from differences in fat intake under their experimental conditions.

Other work in which practical grain mixtures have been used in connection with the liberal feeding of hay has failed to show any significant difference in production with grain mixtures varying from a low of 2.7 percent to a high of 4.9 percent.

There is experimental evidence to indicate that the level of hay feeding may be a factor in the fat requirement. With the liberal feeding of hay, high-fat grain mixtures may not show the same advantage as when smaller amounts of hay are fed.

Efficient production can be obtained on low-fat (2.5 percent) mixtures. There is no evidence to indicate that low-fat grain mixtures adversely affect the health or general welfare of milking cows. Thus, the answer to the question of how much fat the dairy grain mixture should contain is based on the relative costs of fat as compared to other nutrients.

Feeders will do well to recognize that such factors as the quality and quantity of the roughage fed, together with good feeding and good herd management practices, will have a far greater influence on the production and general welfare of their herds than can be expected from a 1 or 2 percent difference in the fat content of their grain mixtures.

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PRE-EMERGENCE SPRAYS

Two new compounds screened in herbicidal evaluation research at Beltsville, Md., last summer hold promise as pre-emergence sprays for the control of annual grasses and certain broadleaf weeds in soybeans and other crops, say Dr. Warren Shaw and Charles Swanson of the U. S. Department of Agriculture.

The experiments evaluated the effect of 20 compounds for weed control and plant injury in 40 major crops. The two promising compounds, not yet available commercially, are:

1-3 chloro isopropyl-N-phenyl carbamate, which killed weeds in cotton, peanuts, and soybeans with little or no injury to the crops.

2-3 (p-chlorophenyl) 1,1-dimethylurea, which gave good control of annual grasses and broad leaf weeds in cotton, peanuts, soybeans, squash, watermelon, and lima beans, when used as a pre-emergence spray at low rates.

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Lots of Trouble from Moist Beans

(Reprinted from Our Paper of Grain Dealers Mutual Fire Insurance Co.)

Sa-ay, did you know that soybeans are hygroscopic? Yes, sir, that's right, hygroscopic. Wouldn't have thought it, would you?

Getting down to plain, everyday English, that just means the innocent-appearing things will pick up moisture right out of the atmosphere. Absorb it, they do, just like a drunk on a Saturday night binge.

And when soybeans get too much moisture, they just naturally begin to lose their self-respect. They start to run a fever, sort of, and then they begin to get squashy. First thing you know, the oil starts running out and drains toward the bottom of the bin—makes an awful mess. In fact, if enough of it runs down there and can't get out, it may solidify—looks like a big chunk of burned peanut candy, but doesn't taste so good, and it takes an ax to get it out.

As the beans lose their oil, they keep on getting warmer and warmer. They retain their shape pretty well, but lose their substance and stick together and sort of char so that a piece the size of a brick will have scarcely any weight at all.

Now don't get the idea those beans are on fire even though they feel uncomfortably warm to the touch and certainly look like a piece of charcoal. The fact of the matter is that while they are heating spontaneously, they haven't *ignited* spontaneously—and they won't. They simply have gone completely out of condition.

Instances of that sort occurring in

wooden storage bins have conclusively proved that no fire existed because the beans—or what was left of them—subsequently cooled down to normal and left no indication of undue heat evident on the bin walls. To substantiate that laboratory tests have been run which indicate that when the beans reach a certain critical temperature, they simply disintegrate into dust or ash. Much the same thing will happen to flax.

Naturally, whoever owns beans that take a notion to act up like that is going to find himself facing a sizable loss. If he discovers the situation soon enough, he can usually, with some small amount of labor, realize pretty good salvage. But if he fails to recognize the situation soon enough, or do anything about it, then about all he will realize is that he is in a mess.

Of course, he won't let it happen again. Next time he stores beans, he will make sure they are perfectly clean before he places them in the bins, for green seeds and other foreign matter contain considerable moisture which is soon absorbed by the beans. Also, he will see to it that no beans having a moisture content of above 14 percent are placed in storage, no matter how otherwise suitable they may be. Finally, he will turn his stored beans periodically, and whenever he does that he will test them for moisture content. For even though those beans were dry when placed in storage, it's just possible they may have picked up some moisture right out of the air. That's

right, right out of thin air, for remember, the darned things are hygroscopic!

— s b d —

U. S. VISITOR



VON FREYBURG

C. G. G. von Freyburg, peanut estate owner from Surinam (Dutch Guiana) sailed from New Orleans Sept. 22, aboard the SS Alcoa Corsair, luxury liner of the Alcoa Steamship Co., for Trinidad.

From Trinidad he flew to his estate in Surinam.

Freyburg returned to the Latin American country after a one-month tour of the U. S. for the purpose of studying experimental methods with soybeans and peanuts in this country. While in the states he visited, among other points: Miami, Dallas, Raleigh and New Orleans, and attended the American Soybean Association convention at Des Moines.

According to the Dutch estate owner, his visit here was "more than successful." He expressed gratitude to the U. S. Department of Agriculture for its cooperation during the trip and its assistance in making available its facilities throughout the country.

— s b d —

BRAZIL PRODUCTION UP

Brazil's soybean production in 1951 is estimated at 2,204,600 bushels, almost double the 1950 crop, reports Foreign Agriculture Circular of the U. S. Department of Agriculture.

Production appears to be centered almost entirely in Rio Grande do Sul as the only other report of production was 23,400 bushels produced in Sao Paulo in 1951.

SOYBEAN DIGEST

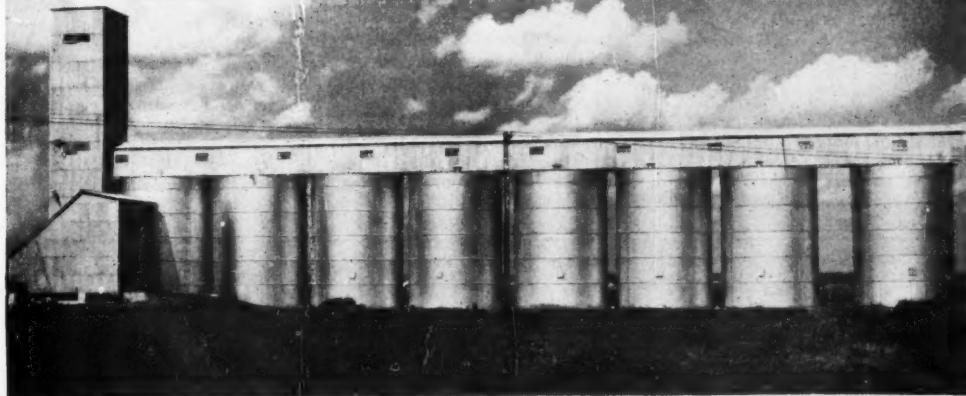
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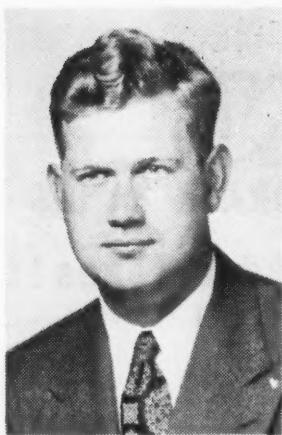


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PAUL C. HUGHES

TO BLYTHEVILLE

Paul C. Hughes, field service director for the American Soybean Association for the past three years, resigned effective Oct. 1 to become manager and secretary-treasurer of the Farmers Soybean Corp., Blytheville, Ark.

The firm has constructed a new 300,000-bushel elevator and storage plant at Blytheville and began operations Oct. 15. It will store soybeans and other grains in the area.

The concrete tanks were built by the J. E. Resser Co., Maroa, Ill., and the machinery was installed by Tipps Engineering & Supply Co., Memphis, Tenn. Other equipment includes a Berico drier and a 3,500-bushel-per-hour Eureka scalper.

Incorporators of the firm are John W. Candill, Jettye Clare Huffman and G. C. Candill.

Hughes was united in marriage to Miss Corena Morgan, daughter of Mr. and Mrs. Fred Morgan, at St. Peter's church in Memphis, Tenn., Sept. 22.

Hughes' successor as field service director has not yet been named.

NEW SALES MANAGER

Donald Danforth, president of Ralston Purina Co., announces the appointment of Louis C. Stevenson as vice president and general sales manager of Chow sales. Stevenson succeeds Elmore M. Putney who passed away suddenly on Oct. 1.

Stevenson, a native of California, Mo., became sales manager of Purina's South Central division in 1928 and was promoted to the position of sales manager of the entire Southern region in 1943.

— s b d —

UNIQUE FEED BOOKLET

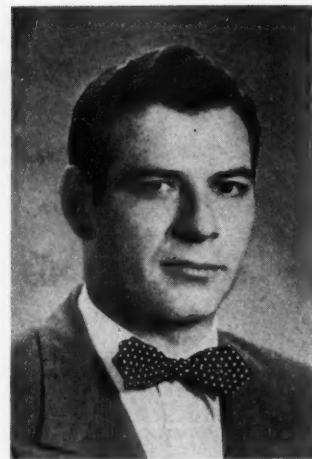
An attractive and unique die-cut booklet in the shape of a bag of feed entitled "What's Behind the Tag" has just been issued by McMillen Feed Mills. It is based on a talk made at a recent series of Master Mix dealer meetings by Dr. J. L. Krider, director of McMillen Feed Research. He tells



of the care and skill used in formulating and manufacturing Master Mix Feeds.

The booklet stresses the importance of high-quality protein, giving actual results of feed lot tests, discusses vitamins and other growth factors.

This booklet is distributed through Master Mix dealers and any one interested may secure a copy by visiting his neighborhood dealer.



NAT KESSLER

STALEY APPOINTMENT

Appointment of Nat Kessler to the newly created position of technical supervisor at the Painesville, Ohio, soybean processing plant of the A. E. Staley Manufacturing Company has been announced by Paul R. Ray, manager of Staley's soybean division.

Kessler, who has his bachelor's and master's degrees in chemical engineering from Washington University, St. Louis, Mo., has been a chemical engineer with the Staley company at Decatur since 1944.

The Painesville plant has been operated by the Staley company since 1939 and is currently being converted from the older expeller type operation to the modern solvent extraction process. Kessler had charge of the chemical engineering on a solvent extraction plant built by Staley in Decatur last year and participated in the preliminary engineering work in the Painesville modernization.

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Exclusive MM GRAIN PAN design prevents bunching of beans at sides or ends even on rolling land. MM CLEANING SHOE is automatically levelled for best cleaning position regardless of working tilt of the HARVESTOR. UNIT-MATIC POWER can be used for hydraulically lifting, lowering and varying height of cut.

Get beans faster, easier and really clean for the lowest cost harvesting per bushel, per acre, per dollar invested. Get an MM HARVESTOR. See your MM Sales and Service Dealer or write direct.



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"TRIANGLE THINS"

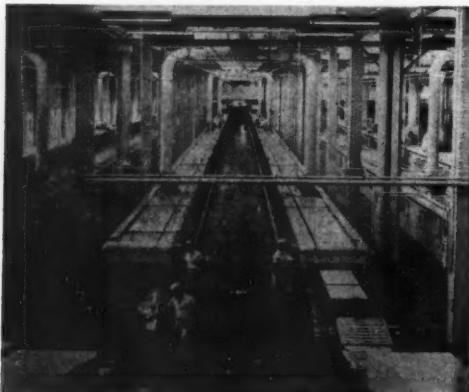
A Triumph for Nabisco

In a list of corporate stocks, one of the large investment services has this comment after the name of the National Biscuit Co.:

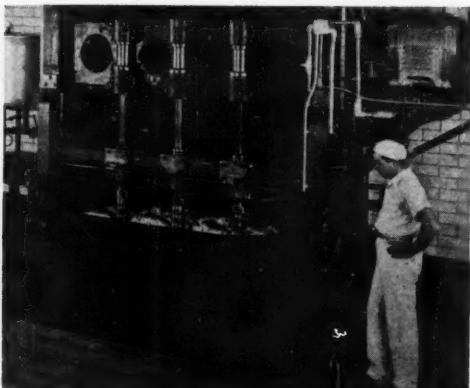
"Largest biscuit baker. Earnings stable. Finances strong. A conservative income stock. Has paid dividend every year since 1899. Assets 94.6 million dollars."

That capsule biography of a giant

Gleaming porcelain and stainless steel on the outside, these remarkable modern ovens are actually endless bands of steel that traverse the several-hundred-foot enclosed length. Heat controls in these ovens regulate baking the Triangle Thins in every zone.



After the flour has been chilled, blended, sifted and aerated to obtain precisely the right grade for Triangle Thins, it is weighed automatically and is ready for this giant spindle mixer. Ingredients include flour, yeast, water and roasted soybeans.



At left, a tempting tray.

organization, deeply enrooted in the nation's food economy, fails to give even a fleeting glimpse of two fascinating characteristics of the company. They are commercial imagination and dynamic merchandising.

During the company's long history it has kept a sharp eye on changing patterns in foods. This policy was emphasized anew by able President George H. Coppers in the company's last annual report.

"We consider it most important," he said, "to develop new products to meet changing tastes and the consumer's desire for variety . . . This is one of the important needs of the present economy."

When a new product is developed and ready for the consumer the sales force descends on the country like paratroopers. Nothing is left to chance in building the merchandising and advertising programs.

This helps explain Nabisco's reputation for putting over a new product, and it explains the singular success of "Triangle Thins," the three-cornered, crisp, tasty little cracker with the nut-like flavor. That special, tantalizing flavor, incidentally, is Soy, one of the wholesome ingredients that provide genuine nutrition in this well-balanced product.

With soups, salads, and beverages the golden brown triangles are a gratifying addition, and children relish them with a glass of milk. Delighted hostesses prepare them with spreads on artistic snack trays that would rate the nod of the late Oscar of the Waldorf.

Before marketing the Triangles a lot of work had been done by the baking lab. In the autumn of 1948 a survey was made of 1,500 families. Two crackers were used for comparison. The result showed the champion standing out sharp and clear. After the dough combination had been settled on, there was further experimentation on shape, exact thinness, and perfection of bake.

A name was coined and the advertising department then produced a package with color and smartness—a 10-ounce carton distinguished by an

over-all design of the product in full size and precise color.

Thus a product—a new Soy product—was born.

At the company's Atlantic division the triangle made its debut on May 1, 1950. Then it was moved to the Eastern division. In both areas the product met with rousing success. Quickly distribution was extended to other sections and early this year there was complete nation-wide distribution.

One factor in the product's huge success was store sampling. This still

helps to build those steadily mounting statistics on consumption.

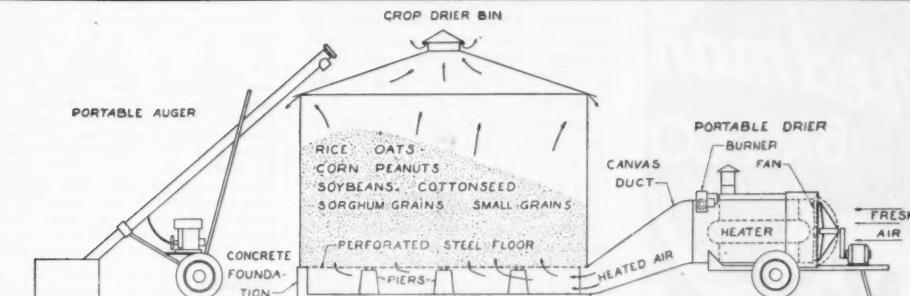
This little success story is not new with Nabisco.

Nor is it new with Soy. For in capable hands soy protein always rings the bell.

— s b d —

STRAWBERRY MULCH

Ed Cott, extension horticulturist at Iowa State College, thinks soybean straw is one of the better winter mulches for strawberries. It makes good insulation material to keep out the cold and is coarse enough so it doesn't mat down.



FoodkeapeR is a system of on the farm drying and storage. Mechanically harvested grain crops are harvested with a moisture content higher than they can safely be stored without artificial drying. The FoodkeapeR drier is engineered to take care of a day's harvest by a combine. The Crop Drier Bin will store the day's harvest of the combine. The FoodkeapeR system

of drying as the crop is harvested frees the farmer from the weather worries.

The FoodkeapeR system consists of three parts—the Crop Drier, the Crop Drier Bin and the Loader. The Crop Drier is portable and automatic in operation. It was engineered for the South and is fully approved by the United States Department of Agriculture.

Some of FoodkeapeR's installations are listed below

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 Paul Loewer, Eunice, Louisiana
 Frank Hardee, Kaplan, Louisiana
 Bill Gaulding, Winnie, Texas
 A. E. Huddleston, Winnie, Texas
 R. A. Owen & Son, Hollandale, Miss.
 George Ryland, Grady, Arkansas
 Victor Schubs, Wheatley, Arkansas
 Alvin M. Barrett, San Pedro, Honduras

R. E. Hoag, Lake Arthur, Louisiana
 Miller Bros., Reeves, Louisiana
 Louis Fontenot, Simmesport, Louisiana
 W. J. Winzer, Winnie, Texas
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FoodkeapeR has other installations throughout Arkansas, Louisiana, Mississippi and Texas. If you are a rice grower or farmer contact the nearest FoodkeapeR dealer. If you are a firm interested in dealership, you may contact the following state representatives.

Mr. N. C. Helm, 920 Madeline, Opelousas, Louisiana
 Mr. Robert Clarkson, 618 Sharon Drive, Corpus Christi, Texas
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 DON'T STORE IT UNLESS IT'S DRY, OR YOU'LL BE SORRY BYE AND BYE

Harvest Lags in Parts of Soy Belt

The soybean crop was out of the field almost 100 percent in the great central soy area of Illinois, Indiana and Ohio by the last week in October. The crop was mostly harvested in Missouri, well over half harvested in Arkansas, and harvest was well along elsewhere in the South.

Harvest lagged due to unfavorable weather in the north and west part of the soy belt. About 40 percent of the

crop was harvested in Iowa and Minnesota, and it was about half out of the field in Kansas.

The yield in general is high, but both yield and acreage are apparently somewhat under last year's all time record.

Most soybeans are grading high, though there have been a few complaints of too much moisture. There has been some damage from drought and some from too much moisture, but apparently not much from frost.

A substantial part of the crop has gone into storage. With shipments of beans far less than expected, the problems of moving the crop have been far less troublesome than in any recent year.

Soybean production, as of Oct. 1, was estimated at 271 million bushels, reports the U. S. Department of Agriculture crop reporting board. This is a reduction of about 1 percent from Sept. 1 and about 6 percent less than the record 287 million bushel crop harvested in 1950. The indicated yield per acre of 20.7 is 0.9 bushel below last year. The record yield per acre was harvested in 1949 with an average of 22.7 bushels per acre.

Reports of Soybean Digest crop correspondents follow:

Arkansas

Keith Bilbrey, Blytheville, for Mississippi County (Oct. 25): 65% of crop harvested. Per acre yield about three bushels under 1950, better than we expected one month ago. Total yield about one-third off from 1950. Excessive hot weather and bean leaf beetles hurt some.

L. M. Humphrey, R. L. Dorch Seed Farms, Scott, for Little Rock area (Oct. 26): 50 to 60 percent harvested. Per acre yield about 75 percent of 1950, total yield 60 to 70 percent. Probably 20 percent damage from heat and drought. S-100 beans graded poor but later varieties very good. Some increase in storage over 1950. Price to farmers \$2.65.

Florida

E. N. Stephens, county agent, Escambia County (Oct. 26): 95 percent of crop harvested. Per acre yield 50 percent of 1950; total yield 55 percent of 1950. Beans graded poor at first, good now. Fifteen percent more going into storage than last year. Price to farmers \$2.50.

Illinois

Gilbert F. Smith, Mahomet, for east central (Oct. 25): Crop all harvested. Per acre yield about same as last year. Area yield same. Beans grading No. 2 or better. Local price today \$2.80.

Albert Dimond, Lovington, for Moultrie County (Oct. 24): Per acre yield three to five bushels down, guessing total off 20 percent. Probably 60 percent in storage this

year. Less trouble with crop movement than ever before. Local storage helped considerably. Local price \$2.82 today. Beans might be slow to move out of farm storage. Believe it will take \$3 to farmers to get them much interested.

Russell S. Davis, Clayton, for west central (Oct. 27): Yield about same as 1950. Some hail, some brown stem rot, and small damage from grape colaspis. Not enough damage to be significant. Beans graded very good except first few lots that had too much moisture. Price here today \$2.77. Bulk of crop bought on \$2.55 basis.

J. E. Johnson, Champaign, for Champaign and adjoining counties (Oct. 26): 99 percent harvested. Only small amount of weedy fields left. Harvesting has been most satisfactory. Reports would indicate an increase of from two to four bushels over 1950. Have more 30-bushel and better yields on over 100 owned and managed farms than any previous years. Record yield 47 actual acres average 42 bushels. Half Hawkeye, half Lincoln. Anticipate the increased yield will offset the slight acreage decrease for 1951. Some disease damage, not as heavy as usual; some water damage. Beans grading excellent. Estimate 15 percent more stored on farms than 1950 crop. Commercial storage about same. Shipment was far below anticipated, so no car shortage. No shortage of commercial storage.

Indiana

Ersel Walley, Wally Agricultural Service, Fort Wayne, for northeast Indiana and northwest Ohio (Oct. 25): 90 to 95 percent of crop harvested. Yield 10 percent less than 1950. Drought was severe in many localities. Ninety percent of beans grading No. 2. About same amount going into storage as last year. Local price today \$2.70 to \$2.75. Evidently both soybeans and cottonseed are in strong hands. Current prices soybeans and cottonseed high compared to price of oils. Growers should keep in mind adjustment must eventually occur. Let us hope oil price goes up.

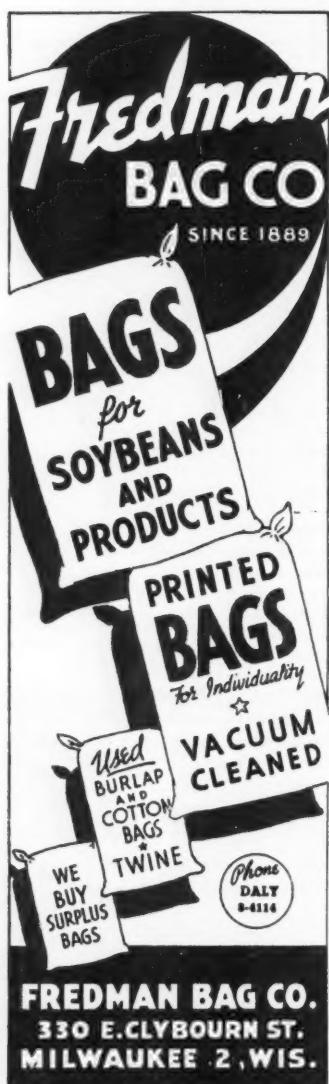
Peter J. Lux, state PMA, Indianapolis: Ninety percent of crop harvested. Per acre yield 23 bushels. Beans grading very good. Only about 25 percent going to market. We are getting 75 percent more under CCC loan than last year.

K. E. Beeson, secretary-treasurer, Indiana Corn Growers' Association, West Lafayette (Oct. 26): Per acre yield 23 bushels compared with 22 bushels for last year. Increase of 5 percent in total yield. Quality excellent. Later harvesting resulted in cleaner beans. Today's price \$2.76.

Chester B. Biddle, Remington, for northwest (Oct. 25): One hundred percent of crop harvested. Per acre yield two to three bushels lower than 1950. Total yield up. Some damage by heavy rain and hail. Beans grading above average. Fifty to 75 percent stored. Our local elevator reports 336,000 bushels beans handled this season, larger amount than last year at harvest time. Their guess is there are more stored on farm than year ago. Fifty percent of this 336,000 bushels are stored. Largest day's run at elevator 35,576 bushels. Local price \$2.71.

Iowa

O. N. LaFollette, LaFollette Label Service, Indianola, for southern (Oct. 24): Forty



percent of crop harvested. Per acre and total yield above 1950. Low percentage of green beans. Beans mostly of good quality. Considerable dockage in some lots. Our average in this country won't miss 30 bushels much if any.

Ray J. Sand, Sand's Seed Service, Marcus, for Cherokee County (Oct. 26): Twenty percent of crop harvested. Yielding about 30 bushels. Early frost did some damage, not nearly as much as expected. Beans are nice quality. High in moisture, 11 to 17 percent. Freight cars are short. However, most of us are holding for ceiling. Local price \$2.80.

W. Wayne Olson, Milford, for northwest (Oct. 26): Forty percent of crop harvested. Yield about five bushels per acre less than 1950. Damage from excessive moisture and frost. Beans smaller than usual. Some green beans. New Blackhawk and early Korean beans matured and yielded the best. Less going into storage this year. Today's price \$2.71.

Kansas

G. C. Wareham, Thomson Soya Mill, Hiawatha, for northeast (Oct. 25): Fifty percent of crop harvested. Wet fields reason for delay. Per acre yield to date about half of 1950. Total yield will probably be less than half. Too much rain and weather too cool. Beans grading No. 1. Moisture about 10 to 12 percent. Large amounts of grass and weed seed. Local price today \$2.77.

Minnesota

Howard E. Grow, Farmer Seed & Nursery Co., Faribault, for southeast (Oct. 26):

Forty percent of crop harvested. Per acre yield 10 percent more than 1950. Fifty percent of beans too wet to store. Weather has been very unfavorable for harvest. Early beans graded okay. Late varieties excess moisture, some contain 25 percent. Most beans will have to be sold. Today's price \$2.63.

R. E. Hodgson, Waseca, for southeast (Oct. 24): Fifteen percent of crop harvested. Most reports indicate fully as good or little better per acre yield than usual. Some failures. Total yield down 5 percent. Late beans not ripe when frost came. Rain makes harvesting difficult. Our local buyer reports that the few beans received so far all grade No. 1 and 2. Today's price \$2.66.

Clive F. Marshall, Honeymead Products Co., Mankato (Oct. 25): Thirty-five percent of crop harvested. Per acre yield much higher than 1950. We have yields as high as 35 to 40 bushels. Early beans high in moisture. Later 13.2 percent moisture. About 60 percent of beans combined going into storage. Some beans will have to be sold as elevators getting full. With good weather heavy movement would press on market at present levels. Early oil test of new crop beans delivered to us showed no improvement over last year. Today's price \$2.70.

John W. Evans, Montevideo, for southwest central (Oct. 27): Sixty percent of crop harvested. Per acre yield 25 percent greater than 1950, and total yield 20 percent greater. Some low spots too wet for combines. Beans grading 12 to 16 percent moisture depending on weather. Many yields reported 25 to 30 bushels an acre.

SOYBEANS FOR BEANS

State	Yield per acre			Production	
	Average 1940-49	1950	Indicated	Average 1940-49	1950
			Bushels	Thousand Bushels	
N. Y.	15.3	18.0	17.0	153	106
N. J.	15.1	19.0	18.0	174	266
Pa.	15.4	17.0	16.0	259	289
Ohio	19.6	22.0	18.5	18,552	23,232
Ind.	18.9	22.0	23.0	25,013	35,002
Ill.	21.4	24.0	25.0	68,424	94,752
Mich.	17.0	19.5	21.0	1,593	2,282
Wis.	14.3	14.5	16.5	497	348
Minn.	15.8	15.5	17.0	7,221	16,384
Iowa	19.5	22.0	20.5	30,709	42,262
Mo.	15.8	23.0	19.0	9,730	27,393
N. Dak.	14.0	17.0	15.0	5,000	30,500
S. Dak.	14.0	12.5	15.0	260	825
Nebr.	16.8	24.0	20.0	436	1,104
Kans.	11.7	18.0	12.5	2,050	6,462
Del.	12.7	14.0	14.0	465	644
Md.	13.6	16.0	15.5	439	656
Va.	15.2	19.0	19.0	1,277	2,527
W. Va.	13.0	13.5	13.0	14	13
N. C.	12.8	17.0	16.5	2,921	5,117
S. C.	8.4	12.0	11.5	132	528
Ga.	7.0	8.5	8.5	83	204
Fla.	—	—	18.0	—	108
Ky.	15.8	17.5	18.0	1,293	1,890
Tenn.	14.6	21.0	19.5	877	3,150
Ala.	12.6	18.0	18.0	468	1,820
Miss.	13.5	24.0	18.0	1,362	6,768
Ark.	15.3	21.0	21.0	3,506	11,676
La.	13.0	18.0	17.5	378	720
Okla.	8.0	17.0	17.0	60	357
U. S.	19.0	21.6	20.7	178,567	287,010
				271,203	

* Short-time average.

More beans would be stored if weather better. Elevators are shipping the 16 percent moisture beans right out.

Mississippi

H. H. Huddleston, Lamont, for Delta sec.

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Our Northern varieties of seed soybeans such as Hawkeye, Rickard Korean, Cypress No. 1, Adams, Monroe and Wabash are of the best quality we have had in years. Our Southern varieties such as S-100 and Ogden are in extremely short supply with the seed quality unknown as yet.

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tion (Oct. 25): Ten percent of crop harvested. It will take killing frost before combining can get under way on account of grassy fields and early and late beans in the same row. A growing season very short in moisture will cut yield materially. Today's price \$2.70 combine run delivered.

Missouri

J. Ross Fleetwood, extension specialist field crops, Columbia (Oct. 25): Seventy-five to 80 percent of crop harvested. Per acre yield about four bushels less than 1950, total 2 million bushels less. Some damage from too much rain. Much weed damage. Some disease but not extensive. Beans grading very good. Today's price \$2.75.

Carver Brown, Ladonia, for northeast (Oct. 26): Eighty-five percent of crop harvested. Per acre yield 10 percent above 1950. Total yield about same. Excessive rain in June caused some weeds in some fields. Beans grading good. Twenty percent more beans going into farm or commercial storage than in past years. Today's price \$2.75.

O. H. Acom, Wardell, for southeast (Oct. 26): Fifty percent of crop harvested. Per acre yield and total yield about 70 percent of last year. Damage from June and July rains and hot, dry weather in August and September. Lots of weed seed. Beans grading low. Quite a large percent of storable beans going into storage. Today's price \$2.75 to \$2.80.

North Carolina

Irvin Morgan, Farmville, for eastern (Oct. 26): Harvesting just begun. Yield about same as 1950. Beans grading better than average due to dry season. Today's price \$2.50 at farm.

North Dakota

C. J. Heltemes, Fargo (Oct. 25): Harvesting well along, up to 80-90 percent in some localities. Per acre yield better than 1950. Beans grading better than last year. No. 1's at West Fargo \$2.57 today. Very few No. 2's received.

Ohio

G. McRoy, Irwin, for central (Oct. 25): One hundred percent of crop harvested. Yield 25 to 30 percent less than 1950. Almost entire damage due to drought from July 25 to present. Thirty-bushel yields few and far between this year. Beans grading fine both quality and moisture. More in storage than ever before. Today's price \$2.75.

Calvin Heilman, Kenton, for Hardin, Wyandot and Marion Counties (Oct. 26): Ninety-nine percent of crop harvested. Yield 75-77 percent of 1950. Drought damage very severe. Beans grading excellent. Many testing 11 to 12 percent moisture. Fewer weeds. Ten to 20 percent more going into storage than last year. Today's price \$2.74.

South Dakota

H. G. Miller & Son, Garden City, for Clark County (Oct. 27): Sixty-five to 75 percent of crop harvested. Yield runs from 10 to 15 bushels per acre depending on how well beans were taken care of. One of our 60-acre fields made 20 bushels per acre. Some frost damage on the late beans. We had an early frost Sept. 22 and it sure hurt the corn. Beans grading No. 1 and 2. About 45 percent held in storage. Today's price \$2.57.

West Virginia

R. J. Friant, Morgantown (Oct. 25): Eighty percent of crop harvested. Yield 90 percent of 1950. Ten percent damage from drought. Rainfall July to September 8.92 inches or 76 percent of normal. Beans grading good to excellent.

Ontario

R. H. Peck, River Canard, for southwestern (Oct. 25): About 75 percent of crop harvested. About 10 percent increase in per acre yield compared with 1950. Total about 140 percent of 1950 due to increased yield and acreage. Some areas suffered from drought and disease but nothing serious. Amount of beans going into storage much greater than usual so processors are bidding up prices to get beans. Today's price \$2.90 at local elevator.

— b d —

MANCHURIAN SHIPMENTS

Northbound shipments of Manchurian soybeans through the Suez Canal in full cargoes totaled 154,126 short tons during July and August, according to a report from Port Said, states Foreign Crops and Markets.

This indicates some increase in the monthly rate, compared with the first half of 1951 when 325,180 tons of beans and 7,535 tons of bulk soybean oil passed the canal enroute from Manchuria to European ports. Combined shipments for January-August are equivalent to 529,542 tons or 17,651,400 bushels of soybeans.

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Seek Cause of Disease Outbreak

The University of Minnesota Agricultural Experiment Station has started research to discover the cause of recent outbreaks of a hemorrhagic disease in cattle in Minnesota and elsewhere. Work is also being done at Iowa State College and Northern Regional Research Laboratory, Peoria, Ill.

The research specifically will seek to discover to what extent, if any, soybean oil meal processed by the trichlorethylene-extraction process is responsible for the outbreaks.

A University committee, specially appointed by Dr. C. H. Bailey, dean of the University Department of Agriculture, has made the following observations:

1—The University has long recommended properly processed soybean oil meal as a protein concentrate in many livestock and poultry rations.

2—There is no evidence at present that properly processed soybean oil meal prepared by either the expeller or hexane-solvent process has caused harm to cattle when properly fed.

3—In cases where an outbreak has been brought to the attention of the Experiment Station, soybean oil meal prepared by the solvent-extraction process with trichlorethylene

was one of the feeds used. Although this does not prove a connection between the disease and soybean oil meal prepared by trichlorethylene process in general or any particular lots of such meal, the possibility must be carefully considered.

4—Large quantities of soybean oil meal have been produced by the trichlorethylene-solvent process and have been used as livestock and

poultry feed without apparent harmful effects.

5—Similar hemorrhagic diseases of cattle are known which are caused by recognized factors. These factors are not the same as those recently observed in relation to toxicity attributed to the feeding of trichlorethylene-extracted soybean oil meal. These toxicity cases currently are being studied.

— s b d —

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—Newton Press photo by Bob Cummins

This man did not come to dinner . . . but he got the first meal processed by the Mid-States Fats & Oils Corp., Peru, Ind. Purchaser Melvin C. Barkdull, manager, Miami County (Indiana) Farm Bureau Co-operative Association congratulates Mid-States' general manager William B. Goff on beginning of operations at newly-remodeled soybean processing plant.

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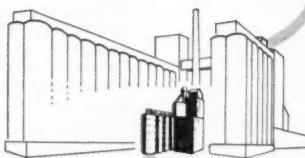


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PUBLICATIONS

Hunger Signs in Soys

Virginia-Carolina Chemical Corp. has issued a folder with illustrations in color showing the hunger signs of several legumes, including soybeans.

"Legumes can starve and still not show hunger signs. But when hunger signs appear, you can be sure that the legumes are really starved," states the booklet.

Hunger signs show more plainly on the big, broad leaves of soybeans than on some other crops. Signs of phosphate and potash hunger are found more often than for any other nutrient.

Magnesium starvation is less common, and as yet, iron and manganese starvation occur only on soils in rather limited areas. The hunger signs for boron are the first to be reported on this crop.

If you would get the highest possible yields per acre at the lowest possible cost per bushel, you will need to keep these hunger signs out of your fields—to farm above the hunger sign fertility level.

SIGNS THAT SHOW ON HUNGRY LEGUMES. Virginia-Carolina Chemical Corp., East St. Louis, Ill.

Soy Flour in Diet

A diet, the proteins of which were furnished by 50 percent low-fat soy flour, introducing 25 percent proteins in the ration and satisfactory in all dietary essentials for good growth of the Wistar strain albino rat, was only partially successful for reproduction and lactation in the first generation at the University of Arkansas. In the second generation, this diet was a marked failure for reproduction and a complete failure for lactation. The supplementation of this basal diet with folic acid resulted in a remarkable improvement in reproduction, but lactation efficiency was only 25 percent.

The addition of vitamin B-12 in minute amounts produced a marked increase in lactation efficiency which was 80 percent. Vitamin B-12 also had a favorable effect on reproduction. The addition of both vitamin B-12 and folic acid produced the optimum results in both reproduction and lactation of first generation animals. Second and third generation animals were successfully reared on this ration supplemented with B-12

only. Fourth generation animals grew well on this diet.

Excellent results in lactation have been obtained through the second generation with a diet, the proteins of which have been derived from 60 percent soy flour, supplemented with vitamin B-12. This ration unsupplemented with vitamin B-12 proved a complete failure for reproduction and lactation.

Reducing the soy flour to 30 percent in the ration, introducing 15 percent proteins, when supplemented with vitamin B-12 and folic acid, still permitted marked success in reproduction and lactation.

Vitamin B-12 exerted a pronounced influence on growth on the basal 50 percent soy flour ration during the post-lactation period in second generation animals.

VITAMIN B-12 IN REPRODUCTION AND LACTATION. By Dr. Barnett Sure, department of agricultural chemistry, University of Arkansas, Fayetteville. Journal of the American Dietetic Association, Chicago, Ill., July 1951.

Soy Flour Screen Test

During the past four years much effort has been directed toward the development of a suitable screen test applicable to all grades and types of soy flour. The chief difficulty has been due to the fact that the fat content of the soy flours varies from 0.5 or less to 22.0 percent.

In addition, some soy flours are constituted from de-fatted flour by the addition of oil or lecithin, or both. Because of the variability in fat content, the ordinary brushing and/or shaking procedures for screen size are not suitable.

A wide range of flour types was examined by all of the presently used methods. Large discrepancies were found in the results reported by different laboratories.

Subsequently a method was developed which involves the use of a fat solvent and washing the flour through a standard screen. This method is an adaptation of at least two somewhat similar methods which are in limited current use, one of which appears in the handbook of methods of the Soy Flour Manufacturers Association.

REPORT OF THE SEED AND MEAL ANALYSIS COMMITTEE, 1950-1951. Journal of the American



You wouldn't expect to get satisfactory production from your soil if fertilizer was not used and you can't expect to get maximum production of vitamin-rich crops if the essential mineral elements are not in your soil. The essential mineral elements are a must if your soil is to produce maximum results—You wouldn't starve your body of minerals but the chances are your soil is starving for minerals. ES-MIN-EL contains these essential mineral elements, Copper, Zinc, Manganese, Boron, Iron and Magnesium. These minerals in sufficient quantities must be in your soil if maximum results are to be produced. You owe it to yourself to return these minerals to your soil. Now is the time to mineralize with ES-MIN-EL.



You can now get ES-MIN-EL in spray or dust form for direct application to the plant. If your soil has not been mineralized, you can now feed your plants these essential mineral elements through the leaves and stems by spraying or dusting with ES-MIN-EL. ES-MIN-EL spray or dust is a neutral form of Copper, Manganese and Zinc.



Oil Chemists' Society, 35 E. Wacker Drive, Chicago 1, Ill., Sept. 1951.

Protein Denaturant

The denaturation of the protein in soybean oil meal by various concentrations of methanol, ethanol, isopropanol and acetone has been investigated in the temperature range of 30° to 75° C. and for various time intervals.

Judged by this test, water is less effective as a denaturant under certain conditions than the pure organic solvents. The alcohol-water solutions, at 40 to 60 percent concentration, are the most effective.

DENATURATION OF SOYBEAN PROTEIN WITH ALCOHOLS AND WITH ACETONE. By A. K. Smith, Vernon L. Johnsen and Robert E. Derges, Northern Regional Research Laboratory, Peoria, Ill. Cereal Chemistry, Lincoln, Nebr., July 1951.

Soybean Oil Test

The centrifugal acetone foots test developed for use on linseed oil was successfully adapted for estimating the acetone insoluble or HCl heat break content of soybean oil. Application of the method makes it possible to obtain results in a half hour with an accuracy comparable to that of the HCl heat break test; it requires only a few minutes of the analyst's time and involves no exacting technique. Data are given showing good

reproducibility of the centrifugal foots values and their degree of correlation with acetone insoluble and HCl heat break contents.

Centrifugal foots test results are being studied in relation to those obtained by other methods of predicting the refining quality of crude soybean oil, and an account of this work will be reported in a paper now in preparation.

THE CENTRIFUGAL ACETONE FOOTS TEST APPLIED TO CRUDE SOYBEAN OIL. I. RAPID ESTIMATION OF PHOSPHATIDE CONTENT. By Egbert Freyer and Victory Shelburne, Spencer Kellogg & Sons, Inc., Buffalo, N. Y. Journal of the American Oil Chemists' Society, 35 E. Wacker Drive, Chicago 1, Ill. Sept. 1951.

Purifying Cooking Oil

Lower cost cooking oil may result from studies by two Iowa State College chemical engineers who found that solvent-extracted soybean oil can be purified more efficiently by using stripping columns packed with rolled spiral weave conveyor belting material.

Soybean oil, used on a large scale in salad and cooking oil, vegetable shortening and margarine, is mostly produced by extracting it from the beans with a solvent which must then be removed to produce a pure edible oil. This is done by blowing steam through the oil-solvent mixture which is passed through a tower

packed with materials that will help expose as much of the oil as possible to the steam. The fewer passes and the less steam required to make pure oil, the cheaper the oil will be. The new packing material developed by Drs. Arnold and Ingebo promises to double the capacity of solvent-stripping plants, cut the steam consumption in half, and produce a very pure oil.

The paper was presented at the American Institute of Chemical Engineers at Columbus, Ohio.

SPIRAL WEAVE METALLIC CLOTH AS A PACKING MATERIAL FOR STRIPPING COLUMNS. By Lionel K. Arnold, research professor of chemical engineering and Robert D. Ingebo, formerly research fellow, Iowa Engineering Experimental Station, Iowa State College, Ames, Iowa.

Highlights on Hedging

Because of the current popular notion that prices of grain are the result of speculative activity a brochure dealing with the economic facts of grain marketing has been prepared by the Chicago Board of Trade, announces Anthony G. Allison, director of public relation for the Board of Trade.

"Except for soybeans, which are in heavy demand due to war requirements for oils, and a very short cotton crop last year, the prices of all grains are substantially below parity prices," states Allison. "The huge national supply of grain is the true reason why the current prices of grain are below parity levels set by the U. S. Department of Agriculture. Speculation has nothing to do with this."

HEDGING HIGHLIGHTS. FACTS ABOUT PRICE INSURANCE AND SPECULATION IN THE GRAIN MARKET. The Board of Trade of the City of Chicago, 141 W. Jackson Blvd., Chicago 4, Ill.

Solvent Check

An accurate method for determining small amounts of trichloroethylene in vegetable oils has been developed. The method employs a distillation procedure to separate the trichloroethylene from the oil and a colorimetric procedure based on the Fujiwara reaction to determine the trichloroethylene in the distillate.

The method has been tested on known samples of crude and refined soybean and cottonseed oils varying in trichloroethylene content from

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A COLORIMETRIC METHOD OF DETERMINING SMALL AMOUNTS OF TRICHLOROETHYLENE IN VEGETABLE OILS. By I. Eisdorfer and V. C. Mehlenbacher, Swift & Co., Chicago, Ill. *Journal of American Oil Chemists' Society*, 35 E. Wacker Drive, Chicago 1, Ill., July 1951.

Miscellaneous

VAPOR PRESSURE OF HEXANE-SOYBEAN OIL SOLUTIONS AT HIGH SOLVENT CONCENTRATIONS. By Allen S. Smith and Bernard Florence, University of Notre Dame, Notre Dame, Ind. *Journal of the American Oil Chemists' Society*, Aug. 1951.

BOOKS

1951 USDA Yearbook

Crops in Peace and War is title of the U. S. Department of Agriculture's Yearbook of Agriculture 1950-51.

The 942-page book deals with the processing of all major farm products in the U. S. and covers their industrial and food uses, byproducts, utilization of wastes and secondary materials, and the changing requirements of consumers and markets. It might be titled the industrial side of agriculture.

The book is largely a report of the four regional research laboratories of USDA. Staff members of the Northern Regional Research Laboratory, Peoria, Ill., cover soybeans.

The chapter called "Oils, Oils and Fats" discusses the processing, storage and usage of animal fats

and vegetable oils, including soybeans. There are articles by J. C. Cowan, A. J. Lewis and H. J. Dutton of the Northern Regional Research Laboratory. Cowan discusses polyamide resins; Lewis, varnishes and paints, all from soybean oil; and Dutton and Cowan, the flavor problem of soybean oil.

A chapter on proteins includes articles by A. K. Smith of the Peoria Laboratory who takes an overall look at industrial proteins, and describes the industrial usage of soy protein.

Smith and Lewis B. Lockwood have an article on fermented soy foods and sauce in the yearbook. Smith spent some months in 1948 studying soy foods in Oriental countries. Lockwood has done considerable work on soy sauce in the Laboratory.

CROPS IN PEACE AND WAR. Yearbook of the U. S. Department of Agriculture, 1950-51. 942 pages. \$2.50. Superintendent of Documents, Washington 25, D. C.

Feed Mixers Handbook

The Feed Mixers' Handbook should be a most useful and handy little volume for feed mixers and dealers, as well as for teachers, country agents and even for livestock feeders themselves.

The book is written by Prof. Ross M. Sherwood of the Texas Agricultural Experiment Station and covers the essentials of manufacture and merchandising of a first class feed.

The book does not try to be another text on livestock and poultry nutrition, of which there are many. But it does include enough of the essentials so that one can do a creditable job of feed manufacturing.

There are sections on recommended nutritional allowances for the various classes of livestock; feed for-

mulation and how to make a feed formula; and on pre-mixes and their uses.

Useful information is lists of recommended books on feeding, publications of the National Research Council, names and addresses of technical and trade journals and the state experiment stations.

THE FEED MIXERS' HANDBOOK. By Ross M. Sherwood, professor of poultry husbandry, Texas Agricultural Experiment Station, College Station, Texas. 192 pages. \$2.50. Order through Soybean Digest, Hudson, Iowa.

Revise Book on Oils

Industrial Oil and Fat Products, by Alton E. Bailey, has been brought out in a new and completely revised edition. It is one of a series of exhaustive monographs on the chemistry and technology of fats, oils and related substances that have been published by Interscience Publishers.

The six years since the first edition came out have been a period of remarkable productivity in fats and oils research. The author has completely rewritten the book to bring it up-to-date.

A full chapter is devoted to handling, storage and grading in the new edition.

A large number of fats and oils including soybean are included in the section on individual fats and oils. There are sections on cooking and salad oils, vegetable shortenings, butter and margarine, bakery products, and confections, soaps and paints and varnishes. There are also sections on extraction of fats and oils, and various refining processes.

INDUSTRIAL OIL AND FAT PRODUCTS. Second edition. By Alton E. Bailey. 968 pages. \$15. Order through the Soybean Digest, Hudson, Iowa.

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LETTERS

Complaint from Japan

TO THE EDITOR:

In the Soybean Digest of Aug. 1951 I came across an article entitled, "Manchurian Beans Are Back in Europe," which attracted our great interest.

In 1951, Japan purchased about 270,000 tons of American soybeans on a commercial basis, a greater part of which has already arrived in Japan and is being processed at oil mills.

Much to our regret, however, Japanese processors have expressed their dissatisfaction with the quality of American soybeans.

A very small quantity of soybeans could be imported from China and Manchuria after the war. But these sources of supply have been completely interrupted since the outbreak of the Korean incident. Hence, Japan has to depend exclusively on the American market.

The above mentioned purchase of American soybeans has been on the basis of Yellow No. 2, but whether the soybeans shipped to Japan are really No. 2 is quite open to doubt. It is a common opinion in Japan that they are much inferior to Manchurian soybeans. The imported soybeans showed much higher percentage of foreign material such as corn, cottonseed, broken stems, sand, and splits and damaged kernels than Manchurian soybeans.

Japanese processors are not so familiar with the processing of American soybeans as with Manchurian and know little of the American soybean situation. They are therefore uneasy about buying American soybeans and much prefer to buy Manchurian beans, if conditions permit.

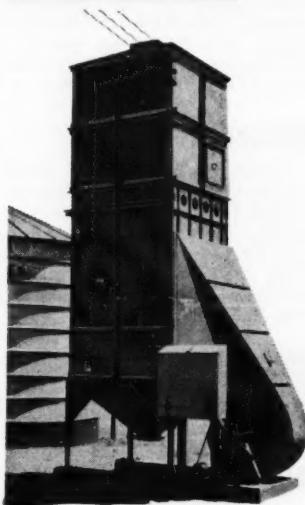
Therefore it is highly desirable

that American exporters should pay more attention to the quality of American soybeans when they ship them to Japan.—*Mitsuo Hirano, president Association of Fat and Oil Manufacturers, Tokyo, Japan.*

Hanson, manager, Big 4 Cooperative Processing Association, Sheldon, Iowa.

— s b d —

ON-THE-FARM DRIER



The Hess Drier

TO THE EDITOR:

As yet we have not found green-damaged beans in our territory. Evidently, the soybeans in this area were far enough along so they were not damaged by the frost. However, they are running a little high in moisture content. The average is about 12½ to 13 percent.

Our big complaint is the "foreign material." If this situation continues, we are seriously considering not only subtracting the weight involved, but we would also like to discount the price. No doubt, this action will probably be impossible.

It amazes us that farmers can do such a poor job of combining.

We certainly hope that your organization will continue fighting for the change in the U. S. grading standards. The 3 percent foreign material proposition has been liked by the elevator men because they have not had to grade each load that was dumped at their elevators. However, this year the beans are running very dirty so that it makes it necessary for them to grade every load.

It might be easier to convince everyone during this bean season that the present soybean standards are not satisfactory.—*Charles W.*

A "completely workable" on-farm drier for small grains, soybeans and corn, is the way Bryce M. Hess, president of the Hess Co., 1855 S. 54th Ave., Chicago, describes this unit which was recently placed on the market.

"This is a complete machine, not just an air heater," said Hess. "The complete unit includes the supporting frame, garner bin, drier, air blower and heating equipment. Controlled, heated air is blown by a powerful fan directly through the grain."

Either propane gas or oil is used for fuel.

The Hess Farm Drier No. 100 will handle the output of two combines and keep up with a two-row picker-sheller.

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GRITS and FLAKES...

FROM THE WORLD OF SOY

◆ "There is a place on almost every Midsouth farm for some soybean acreage," said Randall Flippin, Buckeye Cotton Oil Co., in a talk at a recent meeting of the Memphis Agricultural Club.

◆ Purchase of a tract of land in the central manufacturing district of Los Angeles has been announced by T. L. Daniels, president of Archer-Daniels-Midland Co. The property will be used for a new processing plant to produce bodied oils, chemically modified oils and progressive varnish products. It will be completed by Sept. 1952.

◆ James B. Small, Glidden Co.'s Minneapolis, Minn., manager, has been transferred to Toronto, Ontario, Canada, as general superintendent of the Glidden Co. Ltd. He took up his new duties Oct. 1.

◆ "The Edible Oil Industry, a Challenge to Chemical Engineering," was an article by Warren H. Goss, Pillsbury Mills, Inc., Minneapolis, Minn., in September issue of *Chemical Engineering Progress*.

◆ The soybean processing plant owned by Cargill, Inc., at Springfield, Ill., has been sold to Illinois Soy Products Co., a subsidiary of Iowa Milling Co., Cedar Rapids, Iowa. Indicated price for the land and buildings was \$60,000. Attorneys said there would be no change in the plant's operation.

◆ Allocations have been granted to Allied Mills, Inc., for the construction of a soybean processing plant to cost about \$2,500,000 at Taylorville, Ill. Contracts for the plant, which will include 1 million bushels of concrete grain storage, have been awarded to Jones-Hettelsater Construction Co., Kansas City, Mo.

◆ H. W. McMillen, executive vice president of McMillen Feed Mills, Fort Wayne, Ind., again has assumed active direction of the firm's sales organization, taking over the duties of E. E. Reynolds, who resigned Sept. 1 to establish his own business. McMillen will guide the firm's advertising and feed research programs as well as distribution of products.

◆ Construction of its new mixed feed plant at Des Moines, Iowa, will be completed about Jan. 1, Swift & Co. has announced. The mill is being built adjacent to Swift's soybean oil meal plant.

◆ The feed division of Archer-Daniels-Midland Co., Minneapolis, has been moved to that city from Mankato. E. T. Cashman, division manager, has announced. Feed offices are now on the eighth floor of the Roanoke building. Cashman said the move would put the division closer to the market and to the other divisions of ADM.

◆ General Mills, Inc., Minneapolis, has announced the appointment of F.

CHANGE BY ROSS & ROWE

J. Edw. Rowe, founder and president of Ross & Rowe, Inc., New York City, national sales organization and lecithin pioneers, announced that he



ROWE



SCHLESINGER

was retiring from active direction of the company on the company's 25th anniversary Oct. 13.

Rowe will become chairman of the board. He will be succeeded as president by W. F. Schlesinger, sales manager since 1932.

W. K. Hiltz, technical director of the company, has been elected a vice president.

The lecithin firm observed its 25th anniversary with a gala dinner and theatre party Oct. 13. Dinner was served at Hotel Biltmore and the organization saw the Broadway success, "Call Me Madam."

— s b d —

BEGIN OPERATIONS

J. W. Huegely and John W. Cripe, who operate Ph. H. Postel Milling Co., Mascoutah, Ill., announced the start of soybean processing at the Norris City, Ill., plant the week of Oct. 12.

This is a part of the expansion program being carried out by Hueg-

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THE 1951 CROP AND THE OIL SEED PROCESSOR

JUST how does the outlook for this year's oil seed crop affect the oil seed processor? With the Government encouraging increased cottonseed acreage, there is some indication that the combined soybean-cottonseed acreage this year will be the biggest in history. With a normal growing season, it is predicted that the 1951 domestic oil seed crop will be the biggest ever harvested.

This does not necessarily mean a long and profitable operation for processors generally. The war and the heavy armament program, together with a more favorable world wide dollar balance and continuation of the ECA program, will tend to force seed prices upward. These same factors are tending to force labor prices upward, as well as to siphon off at least a portion of the rural labor supply normally available to the oil mill operators.

The net result to the oil mill operator generally is believed to be a more abundant supply of seed, increased seed and operating costs, increased spread between oil and meal, and possibly decreased margin for conversion of seed to oil and meal.

This situation is favorable for investment in a solvent extraction system. Such an investment reduces labor requirement, particularly if it retires a hydraulic mill—in many cases the saving in labor cost alone will justify the capital cost. At the same time, it increases oil yield by 30 to 40 pounds per ton of seed, decreases repair costs, improves yields and plant efficiency generally. The following are typical for a 200-tons-per-day plant, operated on soybeans and on cottonseed:

	Cottonseed	Soybeans
Capacity	200	200
Residual Oil	.5	.4
Solvent Loss	5 lbs./ton	6 lbs./ton
Steam	6,000 lbs./hr.	7,800 lbs./hr.
Electric Power	200 kw./hr.	225 kw./hr.
Cooling Water		
Make-Up	20 gpm	25 gpm
Operating Labor	2 men/shift	2 men/shift

Prompt action is required by any firm desiring a solvent plant for operation on the 1951 crop. By placing an order for a complete "turnkey" plant immediately with Chemical Plants Division, Blaw-Knox Construction Company, assigning this experienced organization the responsibility for engineering, design, procurement, and construction, a processor can have his plant in operation in a minimum of time. If expected conditions materialize, operations from this one season could assist materially in the write-off of the initial cost.

We urge you to write us at one of our offices listed in the adjoining advertisement. The opportunity for a favorable return from prompt action has seldom been better.

The majority of all U.S. Soybean extraction plants contracted for since 1947 were designed, built and equipped by Chemical Plants Division

Why?

For the answer, just refer to plant performance data. In every instance, Blaw-Knox-

built and equipped extraction plants have exceeded performance guarantees in every category... assuring more profit per dollar invested and per ton processed. Why settle for less? Glad to consult with you now concerning future plans.



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M. Alexander as senior local executive for all company operations at Rossford, Ohio. He has been manager of the Larrode feed plant at Rossford since 1945.

◆ Allis-Chalmers "All-Crop Harvester Improved Model 60" is described in a color-illustrated catalog just issued by Allis-Chalmers tractor division, Milwaukee, Wis. It may be obtained from any A-C dealer.

◆ A leaflet with pictographs showing the production of soybeans and their usage in Japan has been issued by the Soya Bean Extraction Oil Mill Association of Japan. The leaflet is printed in both Japanese and English.

◆ *Bemis Bro. Bag Co. calendar for 1951-52 includes 12 colorful paintings of everyday Americana by artist Carol Martin.*

◆ Swift & Co's soybean mills at Champaign, Ill., and Frankfort, Ind., have each received an award of merit for operating a complete year without a disabling injury.

◆ Dr. D. H. Wheeler of General Mills, Inc., research laboratories, Minneapolis, Minn., presented the Joseph J. Mattiello Memorial Lecture Nov. 1. He was chosen for his "outstanding contributions to science."

◆ Lewis C. Saboe, associate agronomist, Ohio State University, Columbus, will be one of the judges of the corn and soybean exhibits at the International Grain and Hay Show, Chicago, Nov. 24-Dec. 1.

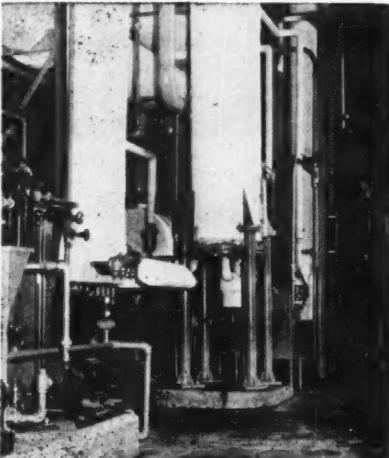
◆ *Fall meeting of the National Fertilizer Association will be held Nov. 12, 13 and 14 at the Atlanta Biltmore Hotel, Atlanta, Ga.*

◆ Promotion of Dr. L. B. Parsons to be director of research and development of Lever Bros. Co. has been announced. He joined Lever Bros. as a research supervisor in 1939. He will continue at the Lever research laboratories in Cambridge, Mass.

◆ Dr. David Fairchild, noted plant explorer and pioneer worker with soybeans, was among retired employees of the Bureau of Plant Industry honored at the Bureau's Golden Jubilee Oct. 24-26. Fairchild was among those on the staff when the Bureau was founded in 1901.

◆ The latest facts on broiler-type birds and valuable new management information is contained in a 60-page Management Manual for Broilers just issued by McMillen Feed Mills, makers of "Master Mix" concentrates and straight feeds for poultry and livestock.

◆ *A portable electric sewing machine for quick closing of bales and large containers is a new product of the Dave Fischbein Co., 38 Glenwood Ave., Minneapolis, Minn.*



ely and Cripe, which also includes soybean processing plants in Mascoutah and Nashville, Ill.

The firm also operates grain elevators and retail feed departments in Beaucoup, Carlyle, Evansville, Nashville, Mascoutah and Venedy, Ill. Their formula feed manufacturing plant located in Mascoutah is being enlarged with additional equipment.

— s b d —

HEADS FATS, OILS



ALLEN MCKEE BOND, JR.

John E. Slaughter, Jr., vice president of The Girdler Corp., Louisville, Ky., in charge of the firm's Votator division, has announced the appointment of Allen McKee Bond, Jr., as manager of Votator's fats and oils section.

Bond joined Votator's technical staff on Jan. 1, 1946.

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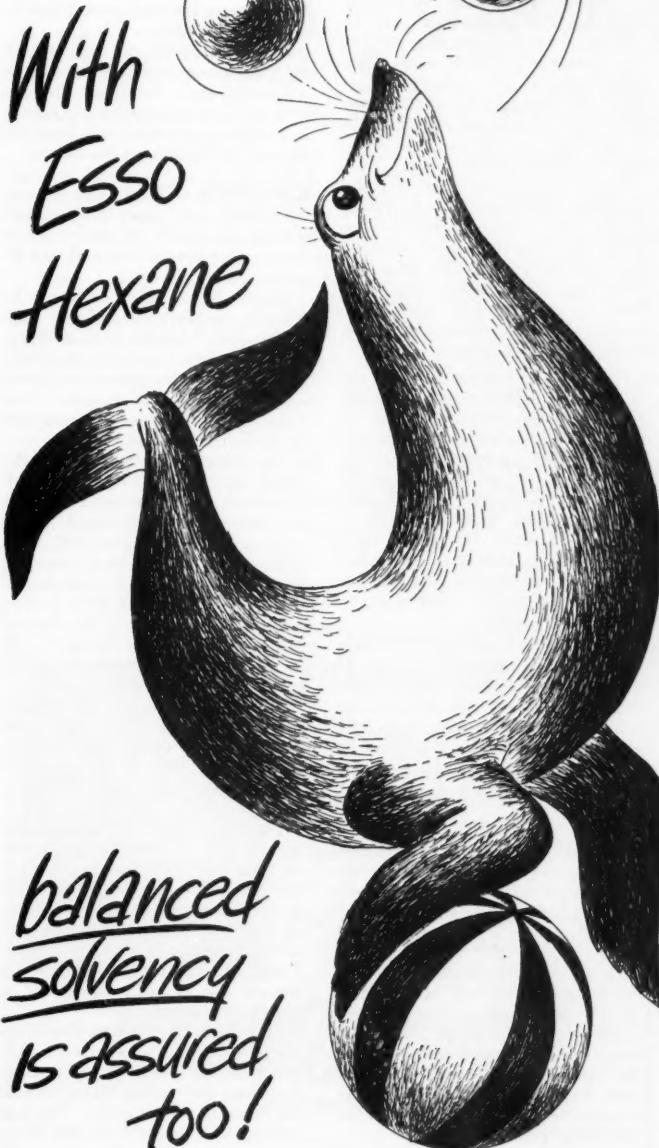
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4. **EFFICIENT SOLVENT RECOVERY**—narrow boiling range allows complete removal from extracted oil and meal.
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WASHINGTON DIGEST

PRICE UPSWING. The strength of the widespread upswing in farm prices puzzles most price officials. They'd expected a moderate uptrend of some prices and higher-than-usual seasonal lows for others. Few were prepared for the mid-fall farm price upsurge in the face of rather large production, and in view of the steadiness of most non-farm wholesale prices.

The price behaviour of each commodity is explained by different factors. But in general, there seems to be widespread farmer expectation of higher prices in the spring. Many look for bean and grain prices to go to ceilings. The volume of harvest selling has been smaller than usual.

Farmers are engaging in a surprisingly strong holding movement. PMA calls it, approvingly, "orderly marketing." Its common expression is that beans, corn, grains and cotton are in "strong hands." It says this is the way it ought to be every year.

Farmer price optimism may be overdone, but it does have some basis in fact. Feed grain supplies are due to become relatively tight. Exports are virtually sure to be large for beans, oil, cotton, wheat and feeds. There is a world-wide inflationary trend, and further moderate inflation in the U. S. is probable.

On the other hand, prices may go in reverse if a Korean peace is made and no further outbreaks occur. It would be a psychological reaction, and likely wouldn't depress prices long. The basic factors in the economy do not point to early depression, no matter what happens on the war front.

There's renewed interest in farm price ceilings. OPS is preparing regulations for several commodities, but officials think — and hope — they'll not be needed.

Corn and feed grains are the most likely to go to ceilings, according to present official views. Some think that all to prevent corn going to the ceiling this winter or early spring will be the high price and reluctance of many farmers to pay it for the corn needed to finish out hogs and cattle.

BEAN PRICES. Few think beans will go to ceiling. A moderate price dip not quite to support levels is now expected, followed by a leveling off a little under ceilings. It's believed the seasonal price curve will be nearer straight this marketing year than usual. Some think the December-January price will nearly equal the May-June level.

Officials firmly believe bean and cottonseed meal prices will decline as the crushing season advances. However, they look for meal prices to stay at relatively high levels the entire marketing year.

The surplus cottonseed meal and

By WAYNE DARROW

Washington Correspondent for
The Soybean Digest

cake may be largely absorbed in the South, where feeding is heavy due to increased livestock.

Competition between bean crushers for beans is expected by some officials to continue sharp throughout the year because of excess crushing capacity. In addition, crushers will have to compete with exporters for beans.

EXPORTS. Total bean exports for 1950-51 were close to 76 million bushels, about 38 percent as whole beans, 35 percent as crude oil, and 26 percent as refined oil.

They'll be as large or larger in 1951-52. Officials cautiously say "high again," but the total of all expressed foreign claims plus an allowance for the rest on past history gives a figure of 86 million bushels. This is too high, but it indicates the strength of the foreign market.

The Japanese money situation demands an early return to trade with Manchuria. The Japs simply haven't got enough money for food. Pressures are great for trading with Manchuria to get it. Should this develop, it wouldn't make much difference in the total volume of U. S. 1951-52 bean exports, officials say. The flow of Manchurian beans to Europe would stop, and European demand for U. S. beans would take up the slack.

Officials don't know how many beans Manchuria has, anyway, nor just the size of the movement to Europe. Some have been going into West German mills since last February.

Japanese complaints about the quality of U. S. beans are well founded, some USDA officials say. The kick there as in Europe is chiefly directed at the admixture of foreign materials in most American beans, such as grains, cottonseed, stems, sand, etc. Unlike American mills, their mills haven't the cleaning equipment to handle such beans.

USDA officials think we should improve the quality of our beans shipped to Japan as a good will proposition, but point out that this won't hold the Japanese market for us. The Japs will get their beans from Manchuria eventually anyway. The European



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situation is another matter. However, the PMA Grain Branch does not plan to go into bean grading standards until next year.

Official export figures for Oct. 1, 1950-Aug. 31, 1951: Total to all countries 72,543,217 bushels, of which 12,406,664 bushels went to Japan. Total for whole beans 27,741,883 bushels, of which Japan took 12,383,081 bushels. Total crude oil exports 244,028,861 lbs. Refined oil 183,140,350 lbs.

Soybean meal and cake exports for the same 11 months were 176,462 short tons, or a bean equivalent of 7,352,576 bushels. Japan took 65 percent of them.

British lard buying from the U. S. is rated one of the biggest reasons for lard prices staying high. After being almost completely out of the market since 1945, Britain began buying lard here last February. Its purchases account for about one-third the total U. S. lard exports for 1951.

British lard buying is due to the fact that the dollar price of lard is in line with their own consumer subsidy price—one of the few U. S. commodities for which this is true.

Officials here think lard prices will work down in line with soybean and cottonseed oil prices this winter.

CROP GOALS. USDA will ask for 90 million acres of corn in 1952 and 3375 million bushels. PMA intends to get it. It's expected to come out of poor pastures, old stomping grounds, and a little out of oats. PMA committees will be asked to make an

all-out drive this winter, without extra funds for the campaign. Instead, state and county committees are to be graded on results. Promotion and pay and even jobs of those who fail will be in danger.

The goal for beans will be put down to 12 million acres again—with admittedly small chance of holding it that low. The cotton goal will be 27½ million acres—2 million below 1951—and a crop of 16 million bales.

If feed price ceilings are set, OPS plans to gear all of them to the price of corn at parity on the historical price relationship.

CEILINGS. It's getting to be a toss-up whether OPS will lower Iowa and Illinois country point ceilings for beans, as previously planned, or raise the Chicago ceiling 5 cents to 7 cents a bushel. No early action is planned.

Estimating minimum ceilings in advance is strictly guess work because of the complexities involved. The national farm average legal minimums have been published by USDA, but they mean little until translated into terms of grade, country elevators and terminals. Estimates are apt to be too low, for the law is mostly on the side of pushing up the ceilings.

Here are rough estimates of a few minimums: No. 3 yellow corn, Chicago, \$1.97 to \$2 a bushel. No. 2 oats, Chicago, \$1.13 to \$1.18 a bushel. No. 2 malting barley \$1.95 a bushel, and No. 1 feed barley \$1.70, Minneapolis.

To get an idea of local legal minimum ceilings, convert the county gov-

ernment loan rate into 100 percent of parity. Corn and wheat loans are 90 percent of parity. Feed grain loan rates for 1952 crops are 80 percent of parity. Local parity is the on-farm legal minimum price ceiling. Add a few cents to get the probable country elevator ceiling.

Market Street

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise here.

Rate: 5¢ per word per issue.
Minimum insertion \$1.00.

WANTED—SMALL HEXANE SOLVENT
plant, 25 or more tons daily capacity.
Reply Soybean Digest, Box 319p, Hudson, Iowa.

FOR SALE — OIL MILL EQUIPMENT
Anderson Expellers, French Screw Presses all models, as is or rebuilt for specific materials. Pittock and Associates, Glen Riddle, Penna.

Wanted—Good used small or medium sized Anderson or French oil expellers. Write H. R. Schmidt, 210 South Pine Street, Newton, Kansas.

FOR SALE: SOYBEAN EXPELLER
plant in complete working order. Nine expellers of late type, with all auxiliary equipment. Now operating. Capacity 150 tons per day. Located in prime soybean producing area. No storage facilities included. Prefer to sell land, buildings, and machinery together. For information write to E. I. Rothschild, attorney for seller, 11 South La Salle Street, Chicago 3, Illinois.

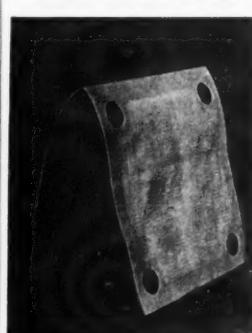
SALES-TECHNICAL PERSONNEL FOR VEGETABLE OIL

Due to a large expansion program the A. E. Staley Manufacturing Company, corn and soybean processor, has the following openings in its Oil Sales Division:

1. Assistant Refined Oil Sales Manager - Applicant must have sales experience in edible and industrial oils or related fields. Technical background preferred.

2. Technical Field Supervisor - Applicant must be graduate chemist with refined oil experience. Ph.D. preferred but not essential. Will work as technical advisor for Oil Sales Division and liaison with company research department. Must understand sales problems.

Address communications to
M. J. Longbons, Manager, Oil Sales Division, A. E. Staley Manufacturing Co., Decatur, Illinois.
Replies confidential.



Filter Cloths

- Die-cut with exact precision.
- Delivered, as pictured, to any schedule.
- No shrinkage. No large roll goods inventory.
- Less Shutdown time.

Send dimensions or press plate template and material specifications for free sample cloth.

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Let Them Go Home with
CLEAN HANDS!



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Bemis Band-Label Burlap Bags keep hands and clothes cleaner for your plant employees, dealers and customers. But this is just one of the important advantages of the new Bemis Band-Label Burlap Bags. Look at these:

- Your brand stands out much better in the bright colorful inks on the white paper band on the front, back and sides of your bag.
- Your brand is removed with the Band-Label and thus will not be used if the bag is refilled by someone else.
- With the Band-Label removed (it comes off easily, when moistened) the bag has a higher re-use value.

Get the full story about Bemis Band-Label Burlap Bags from your Bemis man.

Bemis



Bemis—an American enterprise in business since 1858... employing 10,000 men and women in 45 plants, mills and sales offices... in 28 states, coast to coast.

IN THE MARKETS

Meal, Bean Markets Strong

November was featured by strong soybean and meal markets that upset all trade calculations.

Reversing the usual peak-of-the-harvest trend, November soybeans pushed to over \$3, the highest level in months. Cash soybean oil meal held tight against the \$74 ceiling.

The harvest was slow in Iowa and other northwest areas. Country marketings were generally much lighter than expected as farmers generally held their beans. Chicago edition of Wall Street Journal called receipts "disappointing." There were many reports of heavy storage on farms and in elevators.

Other elements strengthening the market were reduced official estimates of the cotton and soybean crops, and export interest.

Poor harvest weather kept much of the Iowa crop in the fields and beans were slow to move in volume in that state. There was an active demand by processors for soybeans for immediate use. In spite of increased production there were few offerings for nearby delivery.

Oct. 3 saw a record volume of 30,100 tons of soybean oil meal traded at Memphis. Average volume of daily trading on the Memphis Exchange was about 10,000 tons compared with 9,000 tons in September.

There was little fluctuation in the cash market for soybean oil during October. Buying to a large extent was by speculators. Large refiners were out of the market.

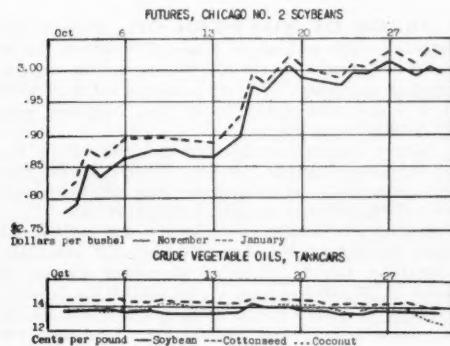
There was considerable interest in export during the month. Norway was in the market for a cargo of soybeans. And Holland bought 4,000 tons of crude soybean oil for October-December shipment; and 80,000 bushels of soybeans.

November No. 2 soybeans, Chicago, opened for the month at \$2.77 1/2, the low, and closed at \$2.99 3/4. High was \$3.01 1/2 Oct. 27.

Crude soybean oil in tankcars opened at 13.6c and closed at 13 1/2c, the low for the month. High was 14 1/8c Oct. 16.

Bulk soybean oil meal, basis Decatur, was pegged at the \$74 ceiling all month.

MEMPHIS SOYBEAN OIL MEAL FUTURES OCT. 31*
Bulk—Decatur (Contract 100 tons). Dec., flat 71.50; Jan., flat 70.00;
Mar., flat 68.00; May, flat 68.20; July, flat 68.25.



NOVEMBER, 1951

Creating new soybean products
... making present ones better



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Soya Protein Materials for Many Industrial Uses

ALPHA* PROTEIN • PROSEIN* • SPRAYSOY*
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Glidden research, concentrated on the business of realizing the full promise of the versatile soybean, has produced a host of soya materials which are now playing useful roles in the manufacture of a wide variety of products. These include paper, wallpaper, insulating board, paint, floor coverings, textiles, rubber, leather, insecticide sprays, fire-fighting foam, gasoline, grease, oil, adhesives and emulsions. A complete technical service is available to help determine the value of any soybean material in any product.

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How many things did she create without curves. Name 'em, if you can!

Had she designed an elevator cup chances are she would have used a **Logarithmic curve** . . . just as we have . . . for it's in keeping with natural laws that assure maximum elevating capacity and efficiency. Yes, the high speed

CALUMET CUP

is a "natural" for loading, elevating and completely discharging super capacity loads.

Tangible, cost-cutting, profit-increasing results being secured by elevator operators all over the world prove beyond question that

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37 Years of Service to the Grain Trade



SAVES UP TO \$1.00 A TON IN SACKING COSTS, TOO!

A strong, neat seam is a sign of *long life* in cotton or burlap bags. And only Western has the famous NU-SEME process that converts top-quality used bags into attractive, like-new bags with the *strongest* seam possible! You'll be saving yourself up to \$1.00 a ton in sacking costs, too.

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Burlap—Strong, durable. Individually inspected.

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CHICAGO SOYBEAN OIL MEAL FUTURES CLOSE OCT. 31*
Nov., 73.00; Dec., 71.00-71.50a; Jan., 69.75b-70.25a; Mar., 67.75b-68.00a; May, 67.75b-68.25a; July, 67.75b-68.25a; Oct., 68.00.

NEW YORK SOYBEAN OIL FUTURES CLOSINGS OCT. 31*

New Contract
Nov., 13.45b; Dec., 13.55; Jan., '52, 13.60; March, 13.60; May, 13.75b; July, 13.80; Sept., 13.65b; Oct. and Nov., 13.65. No sales.

CHICAGO SOYBEAN OIL FUTURES CLOSINGS OCT. 31*
Nov., 13.50b-13.60a; Dec., 13.57b-13.60a; Jan., 13.62b-13.65a; Mar., 13.65; May, 13.85; July, 13.85b-13.87a; Sept., 13.75.
*Reported by the Chicago edition of the Wall Street Journal.
a-Asked. b-Bid.

FUTURES TRADING AND OPEN CONTRACTS IN SOYBEAN OIL MEAL ON MEMPHIS MERCHANTS EXCHANGE CLEARING ASSOCIATION (IN TONS)

	Volume of trading	Open Con- tracts	Volume of trading	Open Con- tracts
Sept. 28	9,200	189,200	Oct. 15	6,400
Sept. 29	3,200	191,400	Oct. 16	186,200
Oct. 1	7,400	190,200	Oct. 17	14,000
Oct. 2	9,700	196,500	Oct. 18	16,500
Oct. 3	30,100	192,100	Oct. 22	5,600
Oct. 4	8,200	194,900	Oct. 23	1,800
Oct. 5	14,200	194,100	Oct. 24	3,800
Oct. 6	3,500	195,000	Oct. 25	14,300
Oct. 8	17,800	194,600	Oct. 26	12,600
Oct. 9	15,200	191,400	Oct. 27	4,100
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Oct. 11	11,900	196,300	Total for 23 days reported	238,000
Oct. 13	6,700	188,200		

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Iowa growers hold the largest stocks, over 600,000 bushels, accounting for 25 percent of the U. S. total. Illinois, the major producing state, is second, with stocks of nearly 500,000 bushels.

Disappearance of farm stocks during the three months ending Oct. 1 is estimated at 7.1 million bushels. This compares with 5.9 million a year earlier and the 1943-49 average of 5.5 million bushels. Movement from farms for this quarter is the second largest since 1943, being exceeded only by that of 1949.

SOYBEAN STOCKS ON FARMS ON OCT. 1

	Soybeans for beans (old crop)			Soybeans for beans (old crop)		
	1943-49	1950	1951	1943-49	1950	1951
Thousands bushels				Thousands bushels		
N. Y.	20	7	5	Del.	15	16
N. J.	9	4	8	Md.	25	3
Pa.	35	19	14	Va.	37	11
Ohio	389	103	348	W. Va.	0	0
Ind.	308	173	175	N. C.	50	84
Ill.	622	427	474	S. C.	5	5
Mich.	56	15	46	Ga.	1	2
Wis.	18	10	24	Va.	14	11
Minn.	148	64	164	Tenn.	8	12
Iowa	789	154	634	Ala.	4	5
Mo.	220	36	274	Miss.	17	0
N. Dak.	2	5	4	Ark.	43	0
S. Dak.	11	11	16	La.	7	0
Nebr.	10	0	11	Okla.	1	4
Kans.	45	17	97	U. S.	2,919	2,555

● USAGE OF SOYBEAN OIL. Factory production of crude soybean oil totaled 187,910,000 lbs. in August compared with 176,357,000 lbs. in July, reports Bureau of the Census. Factory production of the refined oil in August totaled 154,263,000 lbs., compared with 120,792,000 lbs. in July.

Factory consumption of crude soybean oil in August was 164,197,000 lbs.; in July, 130,592,000 lbs. Factory consumption of refined soybean oil in August was 143,240,000 lbs.; in July, 116,315,000 lbs.

Factory and warehouse stocks of crude soybean oil totaled 107,993,000 lbs. Aug. 31, compared with 116,683,000 lbs. July 31. Stocks of the refined soybean oil totaled 85,236,000 lbs. Aug. 31; 95,343,000 lbs. July 31.

Usage of crude soybean oil in August: soap 69,000 lbs.; paint and varnish 244,000 lbs.; lubricants and

greases 39,000 lbs.; other inedible products 826,000 lbs.

Usage of refined soybean oil in August: shortening 44,371,000 lbs.; margarine 5,774,000 lbs.; other edible products 5,819,000 lbs.; soap 32,000 lbs.; paint and varnish 4,451,000 lbs.; lubricants and greases 16,000 lbs.; linoleum and oilcloth 671,000 lbs.; other inedible products 6,701,000 lbs.

Usage of hydrogenated edible soybean oil in August: shortening 20,150,000 lbs.; margarine 29,619,000 lbs.; other edible products 396,000 lbs.; inedible products 6,000 lbs.

• PROCESSING OPERATIONS. Reported by Bureau of Census, Department of Commerce, for July, August.

PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, AUGUST 1951-JULY 1951

Products	Production		Shipments and transfers		End of month stocks	
	August 1951	July 1951	August 1951	July 1951	August 1951	July 31, 1951
SOYBEAN:						
Cake and meal [†]	440,644	411,813	480,767	452,035	68,427	108,555
Lecithin [†]	1,760,344	1,641,110	1,303,865	1,379,699	1,841,975	1,385,496
Edible soy flour, full fat [‡]	658	405	608	417	337	287
Edible soy flour, other [‡]	4,171	2,721	4,011	3,003	1,116	955
Industrial soy flour [‡]	2,351	1,835	2,344	1,907	348	341

[†] Unit of measure in tons. [‡] Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS, BY STATES, AUGUST 1951-JULY 1951
(Tons of 2,000 pounds)

State	Receipts at mills		Crushcd or used		Stocks at mills	
	August 1951	July 1951	August 1951	July 1951	Aug. 31, 1951	July 31, 1951
U. S.	174,408	212,914	564,259	532,757	291,341	681,172
Arkansas	1,130	9	9,970	8,390	2,277	11,117
Illinois	91,968	108,484	226,219	234,136	106,680	249,911
Indiana	—	—	47,726	46,285	29,857	†
Iowa	34,914	31,108	87,569	81,140	58,073	110,728
Kansas	3,239	3,598	4,45	5,253	1,047	5,963
Kentucky	—	—	16,429	10,644	9,443	†
Minnesota	16,829	15,802	25,359	23,606	12,254	20,784
Missouri	3,430	†	19,709	15,047	15,297	31,576
Nebraska	†	†	†	4,630	†	†
N. Carolina	—	—	3,090	†	—	5,052
Ohio	6,624	17,703	80,435	57,726	41,497	115,308
Oklahoma	—	—	—	—	—	—
Texas	—	—	—	—	—	—
All other	16,274	36,363	39,608	42,305	23,906	139,733

[†] Receipts exceeded by reshipments of beans previously received and held in the state. U. S. receipts are on a net basis, excluding transfers between mills.

[‡] Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, AUGUST 1951-JULY 1951

State	Crude oil (thousand pounds)		Cake and meal (tons)			
	Production	Stocks	Production	Stocks		
August 1951	July 1951	Aug. 31, 1951	July 31, 1951	Aug. 31, 1951	July 31, 1951	
U. S.	187,910	176,357	44,503	47,664	440,644	411,813
Arkansas	2,947	2,419	823	752	8,196	6,762
Illinois	78,828	80,637	14,771	15,524	170,049	174,032
Indiana	16,045	15,363	3,871	2,799	37,944	36,254
Iowa	28,981	26,703	5,782	7,389	72,488	66,558
Kansas	2,653	2,638	967	2,851	6,643	6,212
Kentucky	5,746	3,888	743	875	12,663	8,386
Minnesota	7,915	7,485	3,518	4,081	20,138	19,008
Missouri	5,959	4,616	1,462	1,274	16,336	11,944
Nebraska	—	1,402	409	456	5,890	1,657
N. Carolina	851	—	—	444	2,470	2,322
Ohio	26,084	18,468	5,282	5,266	65,494	45,816
Oklahoma	—	—	—	—	—	88
Texas	—	—	—	—	—	535
All other	11,901	12,742	6,875	6,045	30,222	32,965
						21,010
						36,486

^{*} Included in "All other" to avoid disclosure of individual operations. Prepared by Bureau of the Census, Industry Division, Chemicals and Wood Products Section.

Want Bushels for Pennies?

Treat your seed with

Spergon
Reg. U. S. Pat. Off.
Spergon* -SL
Reg. U. S. Pat. Off.

You can invest a few cents per acre in these well-known Spergon seed protectants—and obtain an average annual yield increase of at least one bushel per acre of soybeans.

That's all it costs to avoid the results of unfavorable weather at planting time. With Spergon or Spergon-SL you can obtain maximum germination . . . better stands . . . stronger and sturdier plants . . . hence a substantial increase in yield.

In the all-out production effort for 1951 it is doubly important that you realize your full yield potential. Spergon can be a vital factor in this over-all goal.

ALL THESE ADVANTAGES WITH SPERGON

Spergon and Spergon-SL are highly effective in saving your soybean seed from blight, rot, decay and smut . . . compare the following advantages:

• compatible with legume inoculants

• effective on a wide range of seed

• low acute toxicity for warm-blooded animals

• non-irritating to most operators

• effective at economical dosages

• effective for long periods after treatment and storage

• non-injurious to most seed in excess of recommended dosages

• relatively low cost per unit of seed treated

• lubricating nature results in lower seed breakage in planter.

* U. S. Pat. No. 2,349,771

Ask about Spergon today—available through leading agricultural chemical distributors.



UNITED STATES RUBBER COMPANY
Naugatuck Chemical Division, Naugatuck, Conn.

Manufacturers of seed protectants—Spergon, Spergon-SL, Spergon-DDT-SL, Phygon Seed Protectant, Phygon Paste, Phygon-XL-DDT—fungicides—Spergon Wettable, Phygon-XL—Insecticides—Synklor-48-E, Synklor-50-W—fungicide-insecticides—Spergon Gladiolus Dust, Phygon Rose Dust—miticides—Aramite



Mother Nature Knew What She Was Doing When She Used So Many Curves

How many things did she create without curves. Name 'em, if you can!

Had she designed an elevator cup chances are she would have used a **Logarithmic** curve . . . just as we have . . . for it's in keeping with natural laws that assure maximum elevating capacity and efficiency. Yes, the high speed

CALUMET Super Capacity Elevator CUP

is a "natural" for loading, elevating and completely discharging super capacity loads.

Tangible, cost-cutting, profit-increasing results being secured by elevator operators all over the world prove beyond question that

It's the **Curve** that COUNTS

in an elevator cup . . . the **Logarithmic** curve.

Weller Pat. No.
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Or write for literature
and capacity data

B. I. WELLER CO.
327 S. LaSalle St.,
Chicago 4, Ill.

37 Years of Service to the Grain Trade

Western NU-SEME BAGS
FAMOUS FOR ITS
Long Lifeline!

NU-SEME - an exclusive product of Western Burlap Bag Company

SAVES UP TO \$1.00 A TON IN SACKING COSTS, TOO!

A strong, neat seam is a sign of long life in cotton or burlap bags. And only Western has the famous NU-SEME process that converts top-quality used bags into attractive, like-new bags with the strongest seam possible! You'll be saving yourself up to \$1.00 a ton in sacking costs, too.

WESTERN-MADE NEW BAGS:

Burlap—Strong, durable. Individually inspected.

Cotton—Highest quality at lowest prices.

Western Burlap Bag Co.
write, wire or phone —
1101 W. 38th St.
Chicago 9, Ill.
Phone — CLIfside 4-7700

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SOYBEAN STOCKS ON FARMS ON OCT. 1

Soybeans for beans (old crop)	Soybeans for beans (old crop)			Soybeans for beans (old crop)			
	Average 1943-49	1950	1951	1943-49	1950	1951	
Thousand bushels				Thousand bushels			
N. Y.	5	7	5	Del.	15	16	10
N. J.	9	4	8	Md.	25	3	13
Pa.	35	19	14	Va.	37	11	25
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Ind.	308	173	175	N. C.	50	84	102
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N. Dak.	2	5	4	Ark.	43	0	0
S. Dak.	11	11	16	La.	7	0	4
Nebr.	10	0	11	Okl.	1	1	4
Kans.	45	17	97	U. S.	2,919	1,204	2,555

• USAGE OF SOYBEAN OIL. Factory production of crude soybean oil totaled 187,910,000 lbs. in August compared with 176,357,000 lbs. in July, reports Bureau of the Census. Factory production of the refined oil in August totaled 154,263,000 lbs., compared with 120,792,000 lbs. in July.

Factory consumption of crude soybean oil in August was 164,197,000 lbs.; in July, 130,592,000 lbs. Factory consumption of refined soybean oil in August was 143,240,000 lbs.; in July, 116,315,000 lbs.

Factory and warehouse stocks of crude soybean oil totaled 107,993,000 lbs. Aug. 31, compared with 116,683,000 lbs. July 31. Stocks of the refined soybean oil totaled 85,236,000 lbs. Aug. 31; 95,343,000 lbs. July 31.

Usage of crude soybean oil in August: soap 69,000 lbs.; paint and varnish 244,000 lbs.; lubricants and

greases 39,000 lbs.; other inedible products 826,000 lbs.

Usage of refined soybean oil in August: shortening 44,371,000 lbs.; margarine 5,774,000 lbs.; other edible products 5,819,000 lbs.; soap 32,000 lbs.; paint and varnish 4,451,000 lbs.; lubricants and greases 16,000 lbs.; linoleum and oilcloth 671,000 lbs.; other inedible products 6,701,000 lbs.

Usage of hydrogenated edible soybean oil in August: shortening 20,150,000 lbs.; margarine 29,619,000 lbs.; other edible products 396,000 lbs.; inedible products 6,000 lbs.

● **PROCESSING OPERATIONS.** Reported by Bureau of Census, Department of Commerce, for July, August.

PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, AUGUST 1951-JULY 1951

Products	Production		Shipments and transfers		End of month stocks	
	August 1951	July 1951	August 1951	July 1951	August 31, 1951	July 1951
SOYBEAN:						
Cake and meal [‡]	440,644	411,813	480,767	452,035	68,427	108,550
Lecithin [†]	1,760,344	1,641,110	1,303,865	1,379,699	1,841,975	1,385,496
Edible soy flour, full fat [‡]	658	405	608	417	337	287
Edible soy flour, other [‡]	4,171	2,721	4,011	3,003	1,116	955
Industrial soy flour [‡]	2,351	1,835	2,344	1,907	348	341

† Unit of measure in tons. ‡ Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS, BY STATES, AUGUST 1951-JULY 1951
(Tons of 2,000 pounds)

State	Receipts at mills					
	Crushed	Used	Stocks at mills	Crushed	Used	Stocks at mills
August 1951	July 1951	August 1951	July 1951	Aug. 31, 1951	July 1951	Stocks at mills
U. S.	174,408	212,914	564,250	532,767	291,321	681,172
Arkansas	1,130	9	9,970	8,390	2,277	11,117
Illinois	91,968	108,484	226,219	234,136	106,660	240,911
Indiana	†	†	47,726	46,280	20,857	†
Iowa	34,914	31,108	87,569	81,740	58,073	110,728
Kansas	3,239	3,598	8,145	8,253	1,057	5,963
Kentucky	†	†	16,429	10,644	9,443	†
Minnesota	16,829	15,802	25,355	28,690	12,254	20,784
Missouri	3,430	†	19,709	15,047	15,297	31,576
Nebraska	†	†	4,630	†	†	†
N. Carolina	†	†	3,090	†	†	5,052
Ohio	6,624	17,708	80,435	57,726	41,497	115,308
Oklahoma	†	†	†	†	†	†
Texas	†	†	†	†	†	†
All other	16,274	36,363	39,808	42,305	23,906	139,733

* Receipts exceeded by reshippments of beans previously received and held in the state. U. S. receipts are on a net basis, excluding transfers between mills.

† Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, AUGUST 1951-JULY 1951

State	Crude oil (thousand pounds)		Cake and meal (tons)	
	Production	Stocks	Production	Stocks
			August 1951	July 1951
U. S.	187,910	176,357	44,503	47,664
Arkansas	2,947	2,419	823	752
Illinois	78,828	80,637	14,771	15,524
Indiana	16,045	15,363	3,871	2,799
Iowa	28,981	26,703	5,782	7,389
Kansas	2,636	2,886	2,000	1,983
Kentucky	5,746	5,884	743	875
Minnesota	7,915	7,485	3,518	4,081
Missouri	5,959	4,616	1,462	1,272
Nebraska	—	1,402	409	465
N. Carolina	851	—	—	444
Ohio	26,084	18,468	5,282	5,266
Oklahoma	—	—	—	63,494
Texas	—	—	—	45,816
All other	11,901	12,742	6,875	6,045
				30,222
				32,965
				21,010
				36,486

* Included in "All other" to avoid disclosure of individual operations. Prepared by Bureau of the Census, Industry Division, Chemicals and Wood Products Section.

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• **SOYBEAN STOCKS.** Production and Marketing Administration's commercial grain stock reports.

U. S. Soybeans in Store and Afloat at Domestic Markets (1,000 bu.)

	Sept. 4	Sept. 11	Sept. 18	Sept. 25
Atlantic Coast	40	41	42	12
Gulf Coast	3	3	3	3
Lower Lake	322	166	106	60
East Central	56	5	83	26
West Central, Southwestern & Western	163	160	19	109
Total current week	584	375	355	210
Total Year ago	2,528	1,978	1,268	1,062

U. S. Soybeans in Store and Afloat at Canadian Markets (1,000 bu.)

	Current week	Year ago
Total North American Commercial Soybean Stocks (1,000 bu.)	595	379
Current week	2,528	1,978
Year ago	1,268	1,062

	Oct. 1	Oct. 8	Oct. 15	Oct. 22
Atlantic Coast	8	40	5	21
Gulf Coast	403	45	47	289
Northwestern and Upper Lake	1	—	—	25
Lower Lake	359	855	1,750	3,281
East Central	56	514	908	1,690
West Central, Southwestern & Western	169	123	238	474
Total current week	936	1,577	2,948	5,780
Total year ago	920	1,212	2,184	5,338

• **INSPECTIONS.** Inspected receipts of soybeans in September were more than double those in August or in September a year ago indicating an earlier movement of new crop soybeans, according to reports to the Department of Agriculture. Only in Sept. 1949 were receipts higher than this year. Receipts for September totaled 5,302 cars compared with 1,895 in August, 2,770 is Sept. 1950 and 8,806 in Sept. 1949.

Inspected receipts for the entire season, October through September, totaled 124,697 cars compared with 98,653 last season.

The quality of the soybeans marketed in September dropped slightly—72 percent grading No. 2 or better compared with 75 percent in August, and 49 percent in Sept. 1950. Of the inspected receipts during the 1950-51 season 78 percent graded No. 2 or better which was the same as for the 1949-50 season.

Inspections of soybeans in September included the equivalent of 456 cars inspected as cargo lots and 67 cars as truck receipts.

• **SOYBEAN GLUE.** Consumption of soybean glue by the softwood plywood industry in July totaled 3,732,000 lbs. compared with 5,440,000 lbs. in June, and 3,296,000 lbs. in July 1950.

Stocks of soybean glue July 31 totaled 3,412,000 lbs. compared with 2,727,000 lbs. June 30, and 2,458,000 lbs. July 31, 1950.

Total consumption of soybean glue in August was 5,169,000 lbs. Consumption of phenolic resin glue in August was 2,982,000 lbs.; and of all glues was 9,263,000 lbs.

Stocks of soybean glue Aug. 31 totaled 2,789,000 lbs.

• **EXPORTS.** U. S. exports of soybeans and soybean oil for August, as reported by the Office of Foreign Agricultural Relations, U. S. Department of Agriculture.

Soybeans	312,788 lbs.
Soybean oil (crude)	15,303,039 lbs.
Soybean oil (refined)	34,663,714 lbs.

Converted to a soybean equivalent basis, the exports for August amounted to 5,634,524 bushels.

• **SHORTENING.** Standard shortening shipments reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Week ending Sept. 29	5,549,219
Week ending Oct. 6	5,440,216
Week ending Oct. 12	5,373,516
Week ending Oct. 20	5,324,756

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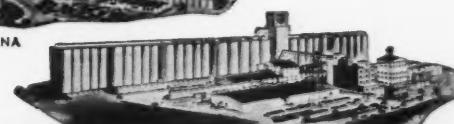
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